

Department of Atmospheric Science Central University of Rajasthan

Annual Progress Report
2017-2018



Department of Atmospheric Science

School of Earth sciences

Central University of Rajasthan

Bandarsindri, N.H. 8, (Jaipur Ajmer Highway)

Kishangarh - 305 817, Distt - Ajmer, Rajasthan (INDIA)

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1. Introduction

The Department of Atmospheric Science, Central University of Rajasthan was established in 2016 under the School of Earth Sciences with a 2 year M.Sc. program in Atmospheric Science. The Department now also offers Ph. D. in Atmospheric Science from the academic year 2017-2018. The department is developing collaborations at National and International levels. Guest faculties are invited from Indian Institute of Technologies, India Meteorological Department, National Center for Medium Range Weather Forecasting, Indian Institute of Tropical Meteorology, Space Application Center, and other reputed institutions.

The objective of the programme is to promote interdisciplinary research in cutting-edge science & technology and public services. It encompasses numerical modeling of atmosphere and ocean, monsoon studies, high impact severe weather forecasting, air pollution, land-air-sea interaction, and climate change to understand its physical and social consequences. This new postgraduate program provides exposure to the students to a wide array of General circulation modeling from global to cloud resolving scale, regional climate modeling, monsoon and associated phenomena, thunderstorms and cyclones, air pollution modeling, aerosol-climate interactions. The programme will also develop a strong research and capacity building in the area of atmospheric and climate science. The department shifted from the old building SP3 to the new building 4A6 (2nd floor) in October 2017. Presently the department has 2 faculties as listed in Table-1.

Table -1: List of Core Faculties

Name	Designation	Area of Specialization
 Prof. Someshwar Das	Professor	Atmospheric Modelling; Cumulus Convection, Cloud Microphysics, Global Climate Modeling, Cloud Resolving Scale Modeling, Parameterization of Physical Processes in the Atmosphere, Numerical Weather Prediction, Severe Weather Systems, Medium Range Weather Forecasting
 Dr. Subrat Kumar Panda	Assistant Professor	Regional climate change modelling, Climate change, Indian Monsoon Studies, Climate analysis using observations and modelling output

The Department is supported by other sister departments of the University. These are

1. Department of Environmental Science
2. Department of Physics
3. Department of Mathematics
4. Department of Computer Science
5. Department of Statistics

2. Number of students admitted

To start with the department has allocated 10 seats for M. Sc. Students and 2 seats for Ph. D. Students. Three students were admitted for M.Sc. programme during the year 2016-2017. The number of students doubled to 6 during the year 2017-2018. The list of students admitted during the 2016-2017 and 2017-2018 are given in the Table-2A & 2B. No students were admitted for the Ph.D. programme as none were found suitable.

Table – 2A: List of students admitted during 2016-2017 for the M.Sc. Programme

S.N.	Enrolment Number	Name of the Student
1	2016 MSATS001	Archana Tripathy
2	2016 MSATS003	Ganeshan M
3	2016 MSATS004	Pradeep Attri

Table – 2B: List of students admitted during 2017-2018 for the M.Sc. Programme

S.N.	Enrolment Number	Name of the Student
1	2017MSATS001	Ashish Shaji
2	2017MSATS002	Athul C P
3	2017MSATS003	Chandni Chandran
4	2017MSATS004	Jigisha Dhakar
5	2017MSATS005	Merlin Jestic
6	2017MSATS006	Midhun M

3. List of Academic activities

3.1 Workshops

The department organized the following workshops during the academic years 2016-2017 and 2017-2018. The purpose of the workshop was to motivate the final year students of B.Sc./ BE/ B.Tech. to take up their career in the field of Atmospheric Science.

Table -3: List of Conference/ Workshop/ Symposium organized

Name of the Conference/ Workshop	National/ International	Sponsors / Co-Sponsors	Date
One day seminar on “Career and Future Prospects in Atmospheric Science”	National	Central University of Rajasthan	25 March 2017
1-D Workshop on “Career & Opportunities in Atmospheric Science”	National	Central University of Rajasthan, Indian Meteorological Society (IMS), Jaipur Chapter, Amity University, Jaipur and BIT, Mesra (Jaipur Campus)	15 March 2018

3.2 Study/ Educational tours

The department conducted educational tours to the Meteorological Centre (India Meteorological Department), Jaipur for the students of the department of Atmospheric & Environmental Sciences as follows.

Table - 4: Study Tours

S.N.	Theme/event name	Organizer/coordinator if any	Date
1	Meteorological Centre (India Meteorological Department), Jaipur	Department of Atmospheric Science	28 March 2017
2	Meteorological Centre (India Meteorological Department), Jaipur	Department of Atmospheric Science	22 March 2018

3.3 Special day celebration

The department celebrated the World Meteorological Day on 23rd March 2017 and 2018.

S.N.	Theme/event name	Organizer/coordinator if any
1	World Meteorological Day on the theme “Understanding the Cloud”	Department of Atmospheric Science

2	World Meteorological Day on the theme “Weather-ready, Climate-smart ”	Department of Atmospheric Science
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3.4 Short Training of Students outside the university

The students of M. Sc. attended the following trainings.

Table – 5: Short Trainings of the Students

S.N.	Theme/event name	Organizer/coordinator if any	Date
1	SMART Training Programme Basics of Satellite Meteorology	Space Applications Centre, Ahmedabad	12-16 Feb 2018
2	Cloud Convection And Parameterization	Indian Institute of Tropical Meteorology, Pune	11-14 Dec 2017
3	Microwave Radar Remote Sensing and its Applications (Online Training)	Indian Institute of Remote Sensing (20 th IIRS Outreach Programme)	10-28 April 2017
4	SMART Training program on Observations to Applications at SAC Ahmadabad ,	Space Applications Centre, Ahmedabad	Feb 14-17, 2017

3.5 Internships at Eminent Institutes/ Laboratories

The students of M. Sc. carried out their internships at the following institutes of eminence during the summer vacations.

Table – 6A: Internships carried out by students during summer vacation (15 May – 1 July 2017)

S.N.	Name of the Student	Name of the Institutes for Internships	Title of Work	Scholarships (Yes/ No)
1	Archana Tripathy	Physical research Laboratory, Ahmedabad	Characteristics of Carbonaceous Aerosols from North East-Himalayas	INSPIRE
2	Ganeshan M	Indian Institute of Tropical Meteorology, Pune	Small Scale Intra Seasonal Oscillation of Sea Surface Temperature (SST) and Wind Speed over Arabian Sea	No
3	Pradeep Attri	National Centre for Antarctic Ocean Research (NCAOR), Goa	Estimation of Turbulent Heat Flux of Sutri Dhaka Glacier during month of July-August 2016	No

Table – 6B: Internships carried out by students during summer vacation (15 May – 15 July 2018)

S.N.	Name of the Student	Name of the Institutes for Internships	Title of Work (Tentative)	Scholarships (Yes/ No)
1	Ashish Shaji	National Centre for Earth Science Studies (NCESS), Thiruvananthapuram	Southwest Monsoon	No
2	Athul C P	National Centre for Medium Range Weather Forecasting (NCMRWF), NOIDA-Delhi	Simulation of Monsoon Depression using NCUM	No
3	Chandni Chandran	Physical research Laboratory, Ahmedabad	Dynamics of upper atmosphere	No
4	Jigisha Dhakar	National Centre for Medium Range Weather Forecasting (NCMRWF), NOIDA-Delhi	Numerical simulation of thunderstorms using NCUM model	No
5	Merlin Jestic	Indian National Centre for Ocean Information Services (INCOIS), Hyderabad	Air-Sea interaction	Yes
6	Midhun M	Indian National Centre for Ocean Information Services (INCOIS), Hyderabad	Role of SST in climate prediction	Yes

3.6 Title of M. Sc. Students Projects

The Final year (4th Semester) students of M.Sc. carried out their project work in the department during January – May 2018 on the following topics.

Table – 7: Title of M.Sc. Projects by the students (Jan – May 2018)

S.N.	Name of the Student	Title of the Project	Supervisor/ Co-Supervisor
1	Archana Tripathy	Impact of Dust on Tropical Cyclone Ockhi: A Case Study	Dr. Subrat K. Panda/ Prof. Someshwar Das
2	Ganeshan M	Numerical Analysis of Synoptic Scale Features in the Development of Cloudburst Using WRF V3.9.1	Dr. Subrat K. Panda/ Prof. Someshwar Das
3	Pradeep Attri	Estimation of Wind Power Potential of Rajasthan by WRF (Weather Research & Forecasting) Model	Prof. Someshwar Das/ Dr. Subrat K. Panda

3.7 Weekly Internal Seminars

The department is coordinating weekly seminars by the faculties and Research Scholars in the School of Earth Sciences. The department has also started weekly Educational Video Series on interesting Weather systems for the benefit of students and faculties. Table-8A & 8B provides the list of seminars and videos conducted so far.

Table – 8A: Weekly Internal seminars

S.N.	Name of Speaker	Title of Seminar	Date
1	Swatantra Dubey	Food Security Index (FSI) for Banas River Basin, Rajasthan	31 Jan 2018
2	Prof. Someshwar Das	Proposed Field Campaign on Desert Storm-Observations, Research & Modelling)	09 Feb 2018
3	Nitika Mundetia	Morphometric Assessment of Drainage Basin	23 Feb 2018
4	Vidya Laksmi	Tannery wastewater pollutant composition and its harmful effects on environment and human beings, treatment approaches	6 April 2018
5	Kritika Sharma	A brief overview on Mexico visit under Indo Mexico Bilateral project to study and analyse the biodegradation of synthetic organic	13 April 2018
6	Anshuman Gunawat	Crop Management Strategies through Various Treatments and Basic Statistical Analysis(ANOVA)	20 Apr 2018

Table – 8B: Weekly Educational Videos

S.N.	Title of the Educational Video	Date
1	Naked Science - Angry Skies	9 March 2018
2	Destructive Weather	16 March 2018
3	WMO Day; Secretary General's Message; IMD Achievements; Cyclone Forecasting by IMD	23 March 2018
4	Super Hurricanes & Typhoons	13 Apr 2018

4. National/ International Collaborations/ Projects

The department is developing multi-national, multi-institutional collaborative projects funded by the Japan Society for Promotion of Science (JSPS) and the Disaster Prevention Research Institute (DPRI), Kyoto University involving Japan, India, Nepal, and Bangladesh. It is also developing collaborative works with the University of Leeds, UK. The projects are summarized below.

Table – 9: International Projects approved/ under submission

S.N.	Title of the project	Lead Collaborators/ PI	Duration	Funding Agency / Budget	Status
1	Towards the International Collaboration to the Implementation of the Early Warning System for the South Himalayan Cloudburst Disaster	Prof. Someshwar Das (CURAJ), and Collaborators from Japan, India (IIT-Roorkee, NEHU), Bangladesh and Nepal	April 2018 – April 2020	Disaster Prevention Research Institute, Kyoto University, Japan (5000,000 (YEN)	Approved
2	Exploring the Heat Source of Asian Monsoon in the Northeastern Indian Subcontinent	Prof. Someshwar Das (CURAJ), and Collaborators from Japan (Prof. Prof. Toru Terao (Kagawa University),	2018-2021	JSPS	Under preparation
3	Development of a seasonal forecast system for wheat and soybean over India	Dr. Andrew Challinor (PI) University of Leeds, UK Dr. Subrat K. Panda (Co-PI)	2021-2024	Monsoon Mission (MoES)	Under Submission

Table – 10: National Projects approved/ under submission

S.N.	Title of the project	Lead Collaborators/ PI/	Duration	Funding Agency / Budget	Status
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		Coordinators			
1.	Detection of Changes of Climate and its Extremes in the Different Eco-Regions of India	Dr. Subrat K. Panda	2018 – 2021	U.G.C Start Up (Rs. 10 Lakhs)	Approved
2.	Capacity building of Atmospheric Sciences at Central University of Rajasthan	HoD (department of Atmospheric Science)	2018-2023	MoES (Rs. 9.82 Crores)	Under Submission
3.	Numerical Modeling of Convective Storms (2 weeks Training workshop)	Prof. Someshwar Das and Dr. Subrat K. Panda	3-15 Dec 2018 (Tentative)	SERB/ DST (~Rs. 15 Lakhs)	Under preparation

Table – 11: Memorandum of Understandings (MoU)

S.N.	Name of the Collaborating University/ Institute	Lead Coordinators	Duration	Status
1.	Central University of Rajasthan and University of Dhaka, Bangladesh	Prof. Someshwar Das & Prof. Tohida Rashid	2018 – 2023	Approved
2.	Central University of Rajasthan and Amity University, Jaipur	Prof. Someshwar Das & Prof. P.V.S. Raju	2018 – 2023	Under consideration

5. Board of studies/ School board meetings

A meeting of the Board of Studies of the department of Atmospheric was held on 18-Dec-2017. The minutes of the meeting is given in Annexure-1. Following are the members of the Board of Studies of the department.

Table-12: Members of the Board of Studies of the Department

S.N.	Name	Address/ Affiliation
1	Prof. S. K. Dash	Emeritus Professor, IIT, Delhi
2	AVM (Dr.) Ajit Tyagi	Former Director General of Meteorology, India Meteorological Department & President, Indian Meteorological Society
3	Dr. L. K. Sharma,	Dean, School of Earth Sciences, Central

		University of Rajasthan (CURAJ)
4	Prof. Someshwar Das	Coordinator, Department of Atmospheric Science, Central University of Rajasthan
5	Dr. Subrat Kumar Panda,	Department of Atmospheric Science, CURAJ
6	Prof. J.K. Prajapat	Dept. of Mathematics, CURAJ
7	Dr. Ravi Saharan,	Dept. of Computer Science, CURAJ

The meeting of the School Board of Earth Sciences was held on 17 Feb 2018. Following are the members of the Board of School of Earth Sciences.

Table-13: Members of the Board of School of the Earth Sciences

S.N.	Name	Address/ Affiliation
1	Prof. U. C. Mohanty	IIT, Bhubneswar
2	Dr. L. S. Rathore	Former Director General of Meteorology, IMD, Consultant (World Bank), Advisor (NDMA)
3	Prof. P. K. Joshi	School of Environmental Sciences, JNU
4	Prof. K.C. Sharma	MDS University, Ajmer
5	Prof. A. B. Gupta	MNIT, Jaipur
6	Dr. L. K. Sharma,	Dean, School of Earth Sciences, Central University of Rajasthan (CURAJ)
7	Prof. Someshwar Das	Coordinator, Department of Atmospheric Science, Central University of Rajasthan
8	Prof. Manish D. Shrimali	Department of Physics, CURAJ
9	Prof. Vipin Kumar	Department of Pharmacy, CURAJ
10	Dr. Subrat Kumar Panda,	Department of Atmospheric Science, CURAJ
11	Dr. Garima Kaushik	Dept. of Environmental Science, CURAJ

6. Equipments Procured/ Under procurement

The department has been working for establishment of a High Performance Computer (HPC), Visualization Laboratory and Field Observatory for research and training of students. Table-14 summarizes the list of equipment/ instruments being procured.

Table – 14: List of Equipment under procurement

S.N.	Name of the Equipment	Estimated Cost (Rs in Lakhs)	Status
1	High Performance Computing (HPC)	40	Under procurement
2	Visualization Laboratory (High-end Graphic Server, display unit/ projector/ Mega screen/ PCs)	20	Under procurement
3	Field Observatory (with basic instruments; AWS, Max, Min Thermometer, Barometer, Hygrometer, Lightening detector, Sunshine recorder, Air quality monitor, Whirling psychrometer, GPS system, Digital Display Panel)	10	Under procurement

7. Visiting faculties/ Scientists

Many National & International Scientists/ Academicians have visited the department and delivered lectures/ seminars for the benefits of students and faculties. The list of the visiting scientists/ academicians is given in Table-15.

Table-15: List of Visiting Faculties/ Scientists in the Department

S.N.	Name	Affiliation	Date
1	Prof. U. C. Mohanty	School of Earth, Ocean and Climate Sciences, Indian Institute of Technology, Bhubaneswar	21 January 2017, 17 February 2018
2	Prof. Shishir K. Dube	Vice Chancellor of the Amity University	23 March 2017
3	Prof. Sushil Kumar Dash	Center for Atmospheric Sciences, IIT Delhi	25 March 2017 18 December 2017
4	Dr. Ashim K. Mitra	Satellite Meteorology Division India Meteorological Department New Delhi	14 – 15 April 2017
5	Prof. P.V.S. Raju	Centre for Ocean-Atmospheric Science & Technology (COAST) Amity University Rajasthan	3 July 2017
6	Prof. Toru Terao	Faculty of Education, Kagawa University, Japan	24-27 Sep 2017

7	Prof. (AVM) Ajit Tyagi	Air Vice Marshal (Rtd) Director General of Meteorology (Rtd), IMD, Koteshwaram Professor, Ministry of Earth Sciences, President, Indian Meteorological Society	18 December 2017
8	Dr. Suman Goyal	Scientist-F, India Meteorological Department	27-30 March 2018
9	Dr. L.S. Rathore	National Disaster Management Authority, New Delhi, Consultant, World Bank, DGM (Rtd), India Meteorological Department	1 May 2018

8. International Visits

Prof. Someshwar Das delivered an invited talk on “Numerical simulation of cloudbursts over the Himalayas” at WMO International workshop on Monsoons (IWM-6), Singapore, held during 13-17 Nov 2017.

9. Invited Lectures/ Seminars

The faculties of the department delivered many invited lectures and attended seminars, which are summarized in Table-16.

Table – 16: Invited lectures and seminars

S.N.	Name of the Faculty	Title of seminar/ conference/ workshop	Date
1	Prof. Someshwar Das	Valedictory address at the conference on “Innovative Trends in Civil Engineering”, Poornima university, Jaipur	14 April 2018
2		Career & Opportunities in Atmospheric Science. Birla Institute of Science & Technology, Jaipur	15 March 2018
3		Numerical simulation of cloudbursts over the Himalayas. WMO International workshop on Monsoons (IWM-6), Singapore	13-17 Nov 2017
4		Atmospheric processes and parameterization, SERB training School, K.L. University, Amaravati, AP	2-3 Nov 2017
5		Field observations, Research and	14 Oct 2017

		Modelling. Climate change session of Rajasthan Science Congress-2017, Amity University, Jaipur, Rajasthan	
6		Career & Opportunities in Atmospheric Science. World EDU Fair organized by MPS, Jaipur.	13 Oct 2017
7		Understanding Clouds. Celebration of WMO Day 2017 at University of Allahabad.	18 Aug 2017
8		Numerical Simulation of Cloudburst and Severe Thunderstorms. Workshop on “Observational & Computational tools of Nowcasting (OBSCON-2017)”, Air Force Administrative College (AFAC), Coimbatore, 15-26 May 2017.	15-26 May 2017
9	Dr. Subrat K. Panda	Workshop on High Resolution Climate Projection and Analysis over India, organized by NOAA, IITM and IMS at TERI, New Delhi	9 Feb 2018
10		Chaired a session in the Conference on “Climate Change Vulnerability Assessment and Adaptation” at 5th Rajasthan Science Congress at Amity University	15 October, 2017 (9 AM to 1 PM).
11		“National Workshop on Urban Climate” at Indian Institute of Technology, Bhubaneswar.	21-22 September 2017
12		Role of SST and Snow in simulating the Indian Summer Monsoon based on Model Simulations. Indo – Dutch Bilateral conference on Climate and Atmospheric Sciences & Applications, organized by IIT-Delhi	20-21 Feb 2017
13		Three days training program on “Geospatial Technologies” during at Department of Environmental Science, CURAJ.	18-20 Feb, 2017

10. National Committee Meetings

Prof. Someshwar Das attended the meeting of NDMA (National Disaster Management Authority) Task Force as a member of the Sub-Group-2 on “Development and Evaluation of Low-Cost Landslide Early Warning Solutions” at New Delhi on 19 July 2017.

11. Awards and Recognitions

The faculties of the department received the following awards and recognitions.

Table – 17: Awards & recognitions

S.N.	Name	Awards/ Recognitions	Date
1.	Prof. Someshwar Das	Elected as the Chairman of the Indian Meteorological Society, Jaipur Chapter	14 Oct 2017
2.	Dr. Subrat Kumar Panda	Elected as the Council Member of the Indian Meteorological Society, Jaipur Chapter	14 Oct 2017
2.	Dr. Subrat Kumar Panda	Certificate of Outstanding Contribution in Reviewing the International Journal titled "Global and Planetary Change" (IF=3.90), Elsevier Publication in recognition of the contributions made to the quality of the journal in the year	March 2018

12. Publications in the peer reviewed journals

Das Someshwar, 2017: Severe Thunderstorms Observations and Modelling – A Review. Vayumandal (Bulletin of Indian Meteorological Society), Vol 43 (2), pp 1-29.

Das Mohan K., Someshwar Das, Samarendra Karmakar, A. K. M. Saiful Islam, Md. Jamal Uddin Khan and Md. Abdul Mannan Chowdhury, 2017: Simulation of Dynamical Features of Squalls over Bangladesh During the Pre-Monsoon Season. The Journal of NOAMI, 34(1): 39-55 (June 2017).

Choudhury Devanil and Someshwar Das, 2017: The sensitivity to the microphysical schemes on the skill of forecasting the track and intensity of tropical cyclones using WRF-ARW model. Journal of Earth System Sciences, Vol. 126, 57, 1-10, DOI 10.1007/s12040-017-0830-2.

Pattnayak K. C., S. K. Panda, Vaishali Saraswat, and S. K. Dash, 2017: Assessment of two versions of regional climate model in simulating the Indian Summer Monsoon over South Asia CORDEX domain. Climate Dynamics, DOI 10.1007/s00382-017-3792-9.

Sarkar Abhijit, Devajyoti Dutta, Paromita Chakraborty and Someshwar Das, 2017: Numerical diagnosis of situations causing heavy rainfall over the Western Himalayas.

Sharma Aditya, Devesh Sharma, S. K. Panda, Swatantra K Dubey, Rajani Kumar Pradhan, 2018: Investigation of Temperature and its Indices under Climate Change Scenarios over Different Regions of Rajasthan State in India, Global and Planetary Change, 161, 82–96.

13. Extracurricular activities (Sports, Cultural, Clubs/ Magazine, Others)

The faculties of the department have actively participated and contributed in several extracurricular activities of CURAJ as members of different committees. They are summarized in Table – 18.

Table – 18: Extracurricular activities as Members of CURAJ Committees

S.N.	Name	Members of Committee	Main Activities
1	Prof. Someshwar Das with the NSS team	NSS	1) Swachh Bharat Mission (1 May – 31 Jul 2018) 2) Voter's Day on 25 Jan 2018 3) National Youth festival (15-18 Jan 2018) 4) Swachhta Pakhawara (1-15 Sep 2018) 5) Van Mahotasav (15 Aug 2017)
2	Prof. Someshwar Das and Dr. Subrat Kumar. Panda with the Innovation Team	Innovation Cell	1) Talks on Nobel laureates of 2017 organized on 2 nd and 28 th Feb 2018 2) Exhibition on Science Day celebration on 28 Feb 2018. 3) Identification of grass root innovator, visit to the Patan village on 22 Dec 2017. 4) Innovation Talk by Dr. Vipin Kumar, Director, NIF, organized on 22 Nov 2017.
	Prof. Someshwar Das	University's Activities / Administrative Functioning	1) Technical committee Member for procurement of HPC. 2) Member of Board of Studies, Dept. of Atmospheric Science 3) Member of School Board, School of Earth Sciences, School of Physical Sciences and School of Computer Science & Engineering

3	Dr. Subrat Kumar Panda	University's Activities and Administrative Functioning	<p>(1) Members for coordinating "Anveshan: Student Research Convention"</p> <p>(2) Technical Committee Member for purchasing High Performance Computing (HPC)</p> <p>(3) Deputed as Central University Observer (CUO) to SUIIT, Sambalpur University, Odisha for the CUCET, 2017 (17-18 May 2017), CUCET 2018 (28-29 April 2018)</p> <p>(5) Member of Ek Bharat Shreshtha Bharat (EBSB), 2017, CURAJ.</p> <p>(6) Organizing member of the "Convocation 2017", CURAJ.</p>
4		Department and School Activities and Administrative Functioning:	<p>(1) Member in the school board, School of Earth Sciences.</p> <p>(2) Member, board of studies, Dept. of Atmospheric Science.</p>
5.		University's Infrastructural Development:	Coordinating in purchasing paper Shredding Machine at CURAJ to destroy old examination answer sheets and confidential paper.

14. Photos

ATMOS_01



School Board Members of the School of Earth Science 2016-2017.

ATMOS_02



Interactive talk by Prof. U. C. Mohanty of IIT-Bhubaneswar with the students of School of Earth Sciences, Jan 2017.

ATMOS_03



Visit to Meteorological Center, Jaipur; students of School of Earth Science 28 March 2017

ATMOS_04



Visit to Meteorological Center, Jaipur; students of School of Earth Science 28 March 2017

ATMOS_05



One Day seminar on Career and Future Prospects in Atmospheric Science, 25 March 2017

ATMOS_06



Visit of Prof. S. K. Dash, IIT Delhi to Laboratory on the occasion of "One Day seminar on Career and Future Prospects in Atmospheric Science", 25 March 2017

ATMOS_07



Visit to India Meteorological Center, Jaipur with the students of School of Earth Science
22 March 2018

ATMOS_08



Visit to India Meteorological Center, Jaipur with the students of School of Earth Science
22 March 2018

ATMOS_09



Visit of Dr. Suman Goyal, Scientist, India Meteorological Department, New Delhi 27-29 March 2018

ATMOS_10



SMART Training program on Observations to Applications at SAC Ahmadabad , 14-17 Feb 2017

ATMOS_11



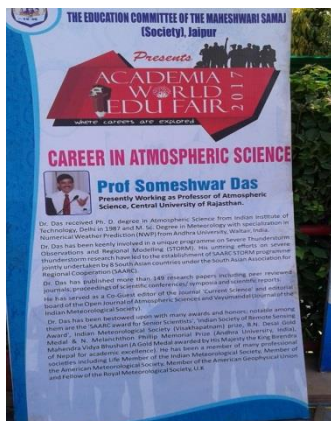
Special Lecture series on Cloud Convection and parameterization, IITM Pune, 11-14 Dec 2017.

ATMOS_12



Visit of Prof. Toru Terao, Kagawa University, JAPAN, 25-27 Sep 2017.

ATMOS_13



Academia World EDU Fair; “Career in Atmospheric Sciences”, organized by MPS, Jaipur, 13 October 2017.

ATMOS_14



1-D Workshop on Career & Opportunities in Atmospheric Sciences, organized by IMS, BISR, CURAJ and Amity, Jaipur 15 Mar 2018.

**CENTRAL UNIVERSITY OF RAJASTHAN
DEPARTMENT OF ATMOSPHERIC SCIENCE**

Board of Studies

Minutes of the meeting held on 18-12-2017

A meeting of the Board of Studies of the department of Atmospheric was held on 18-Dec-2017. The following board members attended the meeting.

1. Prof. S. K. Dash, IIT Delhi
2. AVM (Dr.) Ajit Tyagi, New Delhi
3. Dr. L. K. Sharma, Dean, SES
4. Dr. Ravi Saharan, Computer Science
5. Prof. Someshwar Das, Atmospheric Science
6. Dr. Subrat Kumar Panda, Atmospheric Science

Prof. J. K. Prajapat, (Dept of Mathematics) could not attend the meeting.

The board discussed about the revision of the syllabus of M.Sc. Atmospheric Science (Annexure-2), setting up the labs and other activities of the department. The revised syllabus is given in Annexure-I. In order to strengthen and enrich the academic activities based on the syllabus, the board members suggested that the following infrastructures are essential in the Department of Atmospheric Science.

1. Setting up a field observatory.
2. Setting up synoptic laboratory.
3. Setting up a simulation and visualization laboratory.

In this emerging filed it is essential for the students to interact with the experts from other organization by means of workshops and brainstorming seminars.

(Prof. S. K. Dash)

(AVM (Dr.) Ajit Tyagi)

(Dr. L. K. Sharma)

(Dr. Ravi Saharan)

(Prof. Someshwar Das)

(Dr. Subrat Kumar Panda)

Annexure - 2**CENTRAL UNIVERSITY OF RAJASTHAN****Syllabus**

Name of Programme: M.Sc. Atmospheric Science (4 Semesters)

Semester – I

S. No.	Course Code	Course Title	Type of Course (C/E)	L	I.L.	P	Credits
1	MSA-101	Fundamentals of Atmosphere, Land and Ocean	C	3			3
2	MSA-102	Physics of the Atmosphere	C	3			3
3	MSA-103	Dynamics of the Atmosphere	C	3			3
4	MSA-104	Weather Observations and Analysis	C	3		2	4
5	MSA-105	Mathematics and Statistical Methods for Earth Sciences	C	4			4
6	MSE-304	Science of Climate and Climate Change	C	3			3
Total							20

Semester – II

S. No.	Course Code	Course Title	Type of Course (C/E)	L	I.L.	P	Credits
1	MSA-201	Modeling of Atmospheric Processes	C	3			3
2	MSA-202	Satellite Meteorology and Oceanography	C	3			3
3	MSA-203	Statistical Analysis and Computer Programming	C	2		2	3
4	MSA-204	Simulation and Visualization in Earth Sciences	C	2		2	3
5	MSE-204	Remote Sensing and GIS (Common)	C	3		2	4
6	MSA-205	Advances in Instrumentations related to Atmospheric studies	C	3			3
7	MSA-206	Field Trip#	C	1			1
8	MSA-XXX	Elective-I*	E	3			3
Total							23

Semester – III

S. No.	Course Code	Course Title	Type of Course (C/E)	L	I.L.	P	Credits
1	MSA-301	Mesoscale Modelling and Extreme Weather Events	C	3			3
2	MSA-302	Arid Environment, and Desert Meteorology	C	3			3
3	MSA-303	Numerical Weather Prediction and Data Assimilation	C	2		2	3
4	MSA-304	Meteorological Applications	C	3			3
5	MSA-305	Research Papers Review and Seminar, Internship	C	2			2
6	MSA-306	Minor Project	C	3			3
7	MSA-YYY	Elective-II*	C	3			3
Total							20

Semester – IV

S. No.	Course Code	Course Title	Type of Course (C/E)	L	I.L.	P	Credits
1	MSA-401	Major Project	C				24
Total							24

Total: 87 Credits

Visit to research laboratories/minor project during winter and summer vacations one to two weeks.

* Courses as per MOOCs (Massive Open Online Courses) availability.

Elective can be selected from any department of the university.

CENTRAL UNIVERSITY OF RAJASTHAN
Syllabus

Name of Programme: Ph.D. in Atmospheric Science (1 Semester)

S. No.	Course Code	Course Title	Type of Course (C/E)	L	I.L.	P	Credits
1	PATS 001	Research Methodology	C	4			4
2	PATS 002	Mathematical Modelling Simulation of Atmospheric Processes	C	4			4
3	PATS 101	Tropical Meteorology	E	4			4
4	PATS 102	General Circulation and Climate Modelling	E	4			4
Total							12

Total Credit Requirement: 12

Compulsory Course (8 credits): PATS 001 (4 credits), PATS 002 (4 credits)

Elective Course (4 credits): PATS 101/PATS 102 (any one course from list of elective course as per his/her requirement)