



A Report on TROPMET 2015

NATIONAL SYMPOSIUM

on

WEATHER & CLIMATE EXTREMES

15-18 Feb 2015 Panjab University, Chandigarh

The symposium on 'Weather and Climate Extremes' was organized by the Indian Meteorological Society (IMS) in collaboration with Panjab University (PU) Chandigarh and Snow and Avalanche study Establishment (SASE) Chandigarh from 15 to 18 February 2015. More than 400 eminent scholars, operational meteorologists, researchers, planners, hydrologists, agriculturists, disaster managers, instrumentation scientists, technology developers presented their research findings. The themes that were deliberated upon included climate change, forecasting weather extremes, sectoral impacts of climate change, climate extremes and vulnerability and risk management. Over 108 research papers were presented, which included 9 plenary talks, 54 invited talks, 87 poster presentations and several industry presentations.

The symposium was inaugurated by former Secretary, Department of Science and Technology (DST), Dr. T Ramasami. Director General, India Meteorological Department (IMD), Dr. LS Rathore. PU Vice Chancellor, Prof. Arun Kumar Grover and Director SASE Mr. Ashwagosh Ganju shared the dais in the inaugural function.

Dr Ramasami elaborated on how climate change has affected the agricultural sector. "In such a scenario, active interaction of bodies such as DST, IMD, and Indian Space Research Organisation (ISRO) with the society and common man is required", he stressed. Emphasizing on the current changes observed in climate and weather patterns, Dr. T Ramasami dwelt on the looming crisis of climate change, polluted and depleted water bodies and soil degradation.



Release of Souvenir and Vayu Mandal



Dr. K.J. Ramesh felicitated the dignitaries on dais and concluded the valedictory functions



Inauguration of Exhibitions

Dr. L S Rathore urged for our existence in harmony with nature, which would have positive fallout on climate and weather patterns. Prof. Grover proposed that the Department of Geography of Panjab University should establish an interdisciplinary teaching and research Centre for geosciences, which may involve other government organizations. President, IMS, Dr Akhilesh Gupta, highlighted the role of meteorology in society and elaborated on how climatic extremes could prove detrimental. Eminent geologist and Prof. Emeritus, Department of Geology, and former PU Dean University Instruction Prof. Ashok Sahni delivered the first 'Ruchi Ram Sahni Memorial Lecture'.

The symposium highlighted the need to make climate change studies more interdisciplinary in nature, incorporating the views of geographers, sociologists, economists, anthropologists, chemists and other stakeholders. The event concluded with the observation that climate change and health are important areas of research and the healthcare providers, academicians and meteorologists need to interact for best results.

Valedictory function was chaired by Prof. D. Narayana Rao, Director Research, SRM University, Chennai. The other panellist were Prof. SK Dash (IIT Delhi), Prof. V U M Rao (CRIDA, Hyderabad), Prof. Rajesh Gill (PU, Chandigarh), Dr. Ashwagoshia Ganju (SASE, Chandigarh), Mr. Jatin Singh (Skymet Weather Services). The function was moderated by Dr. KJ Ramesh Secretary, IMS. The themes of discussion primarily focused on Public Private Partnership (PPP) Model in Weather & Climate Services.

Prof. Narayana Rao initiated the discussion by highlighting the theme of symposium and told that Weather & Climate Extremes are the real challenges for entire meteorological community, researchers and user community at large and therefore need to be addressed. He also suggested involvement of public private knowledge in order to make Weather & Climate Services as per uses need.

Prof. V.U.M. Rao urged for taking initiatives for climate resilient agriculture in India with agrometeorological forecasting at the micro (Block) level. He highlighted the emerging vagaries of climate change and the various initiatives by concerned agencies in this direction such as the National Initiatives on Climate Resilient Agriculture (NICRA).

Mr. Ashwagoshia Ganju told that Himalayan Region which is crucial from Mountain Meteorology point of view and also for army/ military operations and stressed upon strengthening of Meteorological Network-(Automatic and Ground based) in Himalayan region. He also mentioned that efforts should be made by concerned departments to make improvements in mountain meteorology.

Dr. Rajesh Gill talked about the society and climate change and stressed upon the need of interdisciplinary research.

Prof. S.K. Dash emphasized on the weather and climate related modelling efforts and analysis of existing open source data by the early career scientists, especially in our Universities. Mr. Jatin Singh deliberated on the need of private organisations in the weather and climate sector in India.

List of Invited Speakers and Participants

S.No.	Name	Affiliation
1	Dr. S.C. Bhan	IMD New Delhi
2	Dr. D.R. Pattanaik	IMD New Delhi
3	Mr. V.K. Soni	IMD New Delhi
4	Dr. Someshwar Das	NCMRWD/IMD, New Delhi
5	Mr. A.K. Mitra	NCMRWF
6	Dr. Ajit Tyagi	MoES
7	Dr. Randhir Singh Hooda	SAC, Ahmedabad
8	Dr. M. Mohapatra	Imd, New Delhi
9	Dr. V.S. Prasad	NCMRWF
10	Dr. Rajshree Bothale	NRSC, Hyderabad
11	Mr. Rama Krishna	A.P. State Disaster Management Authority, Hyderabad
12	Mr. P.V. Ramana Murthy	A.P. State Disaster Management Authority, Hyderabad
13	Dr. Rakesh Kumar	NIH, Roorkee
14	Dr. D. Rajan	NCMRWF, New Delhi
15	Dr. Thara Prabhakaran	IITM, Pune
16	Dr. Anand Sharma	IMD, Dehradun
17	Dr. S.C. Kar	MoEs-NCMRWF, Noida
18	Dr. Kamaljit Ray	IMD, New Delhi
19	Dr. N. Khare	MoEs, New Delhi
20	Dr. Manmohan Singh	
21	Dr. Vinayak Sinha	IISER Mohali
22	Prof. Atul Sachdeva	Director principal GMCH sector - 32 Chandigarh
24	Dr. S.C. Sharma	Regional station, PAU BalawalSaunkri Nawanshahr, Punjab
25	Prof. S.K. Dash	IIT, Delhi
26	Dr. S.D. Attri	IMD, New Delhi
27	Dr. Somnath Baidya Roy	CAS, IIT, Delhi
28	Dr. G. Wasan	BBMB Chandigarh
29	Prof. Anil Gupta	NIDM, New Delhi
30	Dr. Dilip Ganguly	IIT, Delhi
31	Dr. P.K. Thapliyal	
32	Dr. Jyoti K. Parikh	IRADE, Ahmedabad
33	Mr. Rakesh Sehgal	PGIMER Chandigarh
34	Prof. R.N. Keshavamurthy	ISRO
35	Dr. Raghunath	NRSC, Hyderabad
36	Dr. P.K. Singh	IMD
37	Dr. Susanta K. Padhy	PGIMER Chandigarh
38	Dr. K.C. Gouda	CSIR
39	Dr. K.K. Singh	IMD
40	Dr. A.K. Varma	SAC/ISRO Ahmedabad
41	Dr. N.V.K. Chakravarty	IARI, New Delhi
42	Mr. S.C. Dhiman	GWB
43	Dr. Manoj Kumar Singh	IRADE, New Delhi
44	Prof. D. Narayana Rao	SRM University
45	Mr. V. U. M. Rao	CRIDA, Hyderabad
46	Dr. Akhilesh Gupta	President IMS
47	Dr. K.J. Ramesh	Secretary IMS
48	Dr. Bill Lapenta	NCEP, UK
49	Dr. Frank Marks	Director NOAA, USA
50	Dr. Sajid Hameed	Japan
51	Dr. Simon Allen	Switzerland
52	Dr. D. Behera	PGIMER
53	Sh. Santosh Kumar	DST
54	Sh. Surender Paul	IMD
55	Dr. Ravindra Khaiwal	PGIMER
56	Dr. R.K. Dutta	
57	Mr. Kirtiman Awahhi	SDC, New Delhi

List of Registered Presenters

S. No.	Name	E-mail Id	Contact Number	Title of paper
1	Mr. N. Puviarasan	puvi4@yahoo.com	9868362452	Severe squall line and associated rainfall over Delhi region. An analysis using GPS, Radar reflectivity and INSAT
2	Mr. Anil Dhawan	dhawananic@ymail.com	9463998191	Invited
3	Mr. Y.Kalyan Chakravarthy	kalyan9space@gmail.com	9873953793	Study of two near normal monsoon years 2012 & 2014
4	Mr. Vivek Sinha	2vivek.sinha@gmail.com	9968933542	In flight turbulence
5	Dr. B.M. Vyas	bmvyas@yahoo.com	9414736769	Behaviour of atmospheric air pollutants over Udaipur during March 2012
6	Ms. Indira Sudhirjoshi	indira@tropmet.res.in	9921267503	
7	Mr. Akshay R. Kulkarni	ak08080@gmail.com	8657656064	Analysis of extreme deficit monsoon in CMIP5 models simulations.
8	Mr. Sunil Kumar Dubey	sunil2949@gmail.com	9452488914	Precis RCM Model....
9	Ms. Neha Sharma	nehagbpuat1791@gmail.com	8476888721	Analyzing the effect of climate change on rice yield using ORYZA model in Tarai region of Uttarakhand.
10	Mr. Dinesh Inamadar	inamdardinesh74@gmail.com	8880715048	Analyzing the effect of climate change on rice yield using ORYZA model in Tarai region of Uttarakhand.
11	Mr. R. Uma	uma.shyamala29@gmail.com	9629081616	Warm core analysis of tropical cyclone in BOB from AMSU satellite
12	Ms. Ayushi Gaur	ayushigaur.evs@gmail.com	8390271104	Extreme rainfall analysis of Uttarakhand
13	Mr. Siva S. Kathamuri	siva.b.arch@gmail.com	9492923736	Impact of climate change on cyclones over the BOB.
14	Mr. Mukesh Kumar	mukeshranga.evs@gmail.com	9812504140	
15	Ms. Jaya Singh	jayasingh2525@gmail.com	8527461788	Numerical simulation of severe thunderstorm over north india during 30-31 May 2014.
16	Mr. Ankit Gandotra	ankitsahni38@gmail.com	8699786711	Attendee only
17	Dr. B. Sinha			Assessment of crop yield losses in Punjab & Haryana using two years of continuous in - situ Ozone measurements.
18	Director, SASE			
19	Ms. Kanika Taneja	kanikatnj@gmail.com	8800246406	Impact of dust storm on aerosol optical and radiative properties over Delhi.
20	Mr. Sanjay Kumar			
21	Ms. Sulekha	chaudharysulekha20@gmail.com	7206408455	Need and importance of training package in rain water harvesting
22	Dr. A.K. Mitra	ashimmitra@gmail.com	9868471588	
23	Mr. Atinderpal Singh	atinderastro@gmail.com	9417782219	Effects of residue on aerosol properties over North east part of India
24	Mr. Kishan Lal Gadri	kishan.icrs@gmail.com	8003201484	
25	Mr. Rohit Srivastava			
26	Dr. M.S. Narayan	u.m.s.narayanan@gmail.com	8148600208	
27	Ms. Rajasree VPM	rajasree.vpm@gmail.com	9492675257	Development of high resolution

S. No.	Name	E-mail Id	Contact Number	Title of paper
28	Mr. B. Geetha	geethab67@gmail.com	984053162	analysis Diagnostics of diabating heating during rapid intensity changes of Tropical cyclones PHAILIN & MADI
29	Ms. Harshita Pawar	harshita.pawar@gmail.com	9041684154	Quantifying the contribution of long range transport to PM loading at IISER Mohali.
30	Ms. Divya Prakash	divyaprakash@bitmesra.ac.in	82331913821	Understanding the aerosol behaviour during dust epochs using GRIMM A.spectra.
31	Ms. Ranu Pathania	ranu44raone@gmail.com	8894943724	Modeling the simulated adaptation management strategies in wheat crop in western Himalaya vis-a-vis climate change.
32	Ms. Priyanka Acharya	acharyapriyanka21@gmail.com	8894057058	Assessment of carbon sequestration potential for agri horticulture and agroforestry system of western Himalaya.
33	Dr. K.K. Gill	kgill2002@gmail.com	9855385287	Impact of climate change on extreme weather events in Southern Punjab
34	Dr. Sompal Singh	sompal69@pau.edu	8146700669	Assessing the impacts of ENSO on rainfall variability and find grain productivity in Punjab.
35	Mr. U. Umakanth	uma.phys@gmail.com	9494765435	Evaluation of performance of Reg. CMGG over Indian Region.
36	Dr. Devendraa Singh	devendraasingh@gmail.com	9975789855	Comparative study Indo-China peninsular region.
37	Mr. Sammaiah Matta	sammaiah.skylark@gmail.com	9390941501	Cyclone vulnerability and risk analysis for coastal districts of Andhra Pradesh using EDSS model.
38	Dr. B. Manikiam	manikiam@yahoo.co.in	9449026905	Climate change studies
39	Dr. Kamsali Nagaraja	kamsalinagaraj@gmail.com	9663373449	Satellite for climate change
40	Ms. Sravana Kumar M.			
41	Dr. (Ms.) Anita Singh	anitasaharan@gmail.com	9419294912	Microalgae : a source for biofuel production and utilization of greenhouse gas emissions.
42	Mr. Piyush Garg	piyushg015@gmail.com	7769930704	Understanding large scale characteristics corresponding to heavy rainfall events over India
43	Ms. Navneet Kaur	neetu.navneet289@gmail.com	9803580986	Projected climate change under diverse scenarios in different agroclimate areas of India Punjab.
44	Ms. Subhjeet Kaur	subhjeetkaur88@gmail.com	8283811736	Management of thermal and nutrient stress in wheat using remotely sensed data : A review
45	Ms. Baljeet Kaur	bchahal57@gmail.com	9888182719	Formulation of weather based weekly thumb rules for the prediction of potential yield of mustard.
46	Mr. Jag Jeewan Singh	singhjagjeevan@gmail.com	9465414982	
47	Mr. Sukhvir Singh			Management of weather variability effects of terminal heat stress on productivity of wheat by altering sowing time.
48	Ms. Amandeep Kaur		9463782737	Role of meteorological parameters on sheath blight of Rice under

S. No.	Name	E-mail Id	Contact Number	Title of paper
49	Mr. Panini Dasgupta	panini.dasgupta@gmail.com	9446745212	different planting methods. Intra - seasonal oscillation characteristics over As & BOB.
50	Mr. Abhisek Das	iabhisekdas@gmail.com	9831681296	Observation of heavy precipitation, J & K flood.
51	Dr. Surender Singh	surendersd@yahoo.com	9416092462	Frost & fog dynamics in past climatic variability. A regional analysis
52	Mr. Muriki Santosh Kumar	santoshsun51@gmail.com	7042068773	Diurnal variability ASMR in GFS model.
53	Mr. K. Sindhu	sindhulaksha111@gmail.com	8125419690	Hydrological modelling of Brahmani - Baiharani river basin.
54	Dr. Ashwini Kumar Bohra	akbohra@gmail.com	9810978884	Disastrous floods in W.Himalayas
55	Mr. A. Madhulatha	madhu@ncmrwf.gov.in	8800740609	Impact of upvar area 3Dvar for th prediction of cyclone Phailin
56	Dr. Kanti Prasad	kantiprasad@hotmail.com	9811284491	Disastrous floods in W.Himalayas
57	Mr. Anuj Kumbhat	anujkumbhat@weather-risk.com	9987020616	Disastrous floods in W.Himalayas
58	Dr. Pankaj Kumar	iamp.kumar@gmail.com	9451120191	Past evolution of Himalayan glacier, a RCM study
59	Mr. Alfred Johny	alfred@csir4pi.in	7829063145	Understanding the relationship between climate and vector borne diseases in India.
60	Mr. Shafeer K.B.	shafeerkb@gmail.com	8105025998	
61	Mr. Praveen S.	appuspraveen@gmail.com	8892752326	Extreme rainfall events over urban cities; Evaluation of forecast skill of a mesoscale model
62	Ms. Jyoti N Bhate	jyoti@narl.gov.in	9492737214	Understanding
63	Dr. Kaustav Chakravarty	kaustav.chty@gmail.com	9404720190	Study of tropical rainfall by using multifrequency radar and discrometer observations.
64	Dr. H.N. Singh	narendra@tropmet.res.in	9423582154	Characteristics of MSLP....
65	Dr. D.R. Kothawale	kotha@tropmet.res.in	9850340433	Trends in daily temperature extremes over India during 1901- 2013
66	Ms. Sherin Hassan Brar	sherinhassantony@gmail.com	9724529166	Seasonal and spatial variation of BC over Indian region.
67	Ms. Anu Xavier	anuxavier26@gmail.com	9400610635	Association between the heavy flood event in June 2013 over Uttarakhand and the abnormal circulation pattern in the upper troposphere.
68	Mr. Sourabh Shrivastava	sourabh@ncmrwf.gov.in	9555813179	Variability of seasonal rainfall over the BIMSTEC region
69	Dr. Devajyoti Dutta	djyoti@ncmrwf.gov.in	9015569436	Hail stones as seen by c-band dual-polarimetricdoppler weather radar.
70	Dr. Sushil Kumar	sushil12@gmail.com	8744950999	Impact of the nested domain on the simulation of tropical cyclones using WRF model
71	Mr. Gaurav Tiwari	gtiwari506@gmail.com	9718122717	Numerical simulation of cyclonic storm 'Nanauk' and Nilofar over Arabian sea using mesoscale ARW(WRF) model
72	Dr. S.I. Laskar	drsebul@gmail.com	9013179961	

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73	Dr. Ashok Kumar Das	dasok25@gmail.com	9968686423	
74	Dr. Ajeet P. Pandey	ajeet_imd@rediffmail.com	9968090838	Analysis of patterns in extreme rainfall events for Punjab & Haryana
75	Mr. J.L. Chaudhary	jawaharlal_2007@rediffmail.com	9425592480	Extreme weather events in Chhatisgarh state affecting crop production - irrigation and adaptation strategies.
76	Dr. Parminder Kaur Baweja	baweja_pk@rediffmail.com	9625722255	Numerical weather prediction model for forecast
77	Mr. Adbhut Kumar Dogra	veenudogra59@gmail.com	9217265066	
78	Mr. Ashumam Gain	ashumam@gmail.com	8588017103	Extreme weather events at 1.5 km resolution using regional UM
79	Mr. Unnikrishnan C.K	unnikrishnan@ncmrwf.gov.in	7836078817	Impact of land use land cover on severe weather predictions with NCMRWF unified model.
80	Dr. H.S. Negi	hs.negi@sase.drdo.in	9417474113	Identification of target points for artificial triggering using remote sensing & GIS.
81	Mr. Ashwani Kumar	ashbodh81@gmail.com	7589096049	
82	Mr. Jagdish Chandra Joshi	joshjagdish@gmail.com	9417790491	Quantitative prediction of snowfall in extreme situation during winter and associated avalanche hazard over N- w himalayas
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84	Mr. Snehasusan Mathew	snehamavila@yahoo.com	9496370682	Expansion of hadley cell in climate change scenario : A comparison between reanalysis and radiosonde observations.
85	Ms. Sandhya M.	sandhyadhaneesh@narl.gov.in	9603543446	Convective inhibition due to a potential vorticity intrusion at tropical latitude - a case study.
86	Mr. Sobhanadriswara Rao	sobhan.nalluri@gmail.com	9704904698	Using real time simulations on natural disasters - HUD HUD cyclone a case study.
87	Mr. B. Shiva Kumar	shivakumarmeet@gmail.com	9704592479	Assessment of drought over telangana during - 2014
88	Ms. Neethu C.	44neethu@gmail.com	9880313072	Understanding the variability and change in coastal rainfall extremes in North east & south west monsoon monsoon
89	Ms. Anusha Sathyanadh	anushacalicut@gmail.com	9405455425	Spatio temporal variation of soil moisture
90	Mr. S.K. Sahoo	sanjeeb.ranjeet@gmail.com	8123381968	Simulation and analysis of Heavy rainfall event over Bengaluru during October 2013
91	Mr. Ajilesh P.P.	ajileshparolla@gmail.com	9632164610	Modulation of North Indian Ocean Tropical Cyclones by El Nino - southern oscillation.
92	Ms. Suneeth K. V.	sunrrth07kv@gmail.com	9946051517	Diurnal characteristics of Tropical tropopause and its implication on climate change.

S. No.	Name	E-mail Id	Contact Number	Title of paper
93	Ms. Ishita Sarkar	ishitasarkar07@yahoo.com	9475218912	Multilayer perceptron model for nowcasting visibility from surface observations: results and sensitivity to dissimilar station altitudes.
94	Mr. Ahmed Shoaib	sta.shoaib@gmail.com	9885332227	Correcting real time automatic weather stations data through quality checks and analysis.
95	Ms. Jayashree V. Revadekar	jvrch@tropmet.res.in	9326692399	Precipitation extremes over Pune lee side.
96	Dr. Mala Bhalla	malabhalla@yahoo.co.in	9646121545	
97	Dr. Monica Gupta	drmg1156@gmail.com	9646121558	
98	Dr. Rajeev Sharma		9646121562	
99	Ms. Harleen Kaur	kaurharleen122@gmail.com	7696776697	Changes in the incidence of extreme of temperature events in Punjab a case study.
100	Ms. Jasmine Satish Takle	jas.takle@gmail.com	8806634741	Aerosol cloud interaction and heavy precipitation.
101	Ms. Jaspinder Kaur	jaspinderkaur56@gmail.com	8146941281	Frequency of extreme temperature events in sub - montane Punjab
102	Dr. Kavita Bhatt	kvt_pandey@yahoo.co.in	9041003838	Predicting Mustard yield through different regression models in central Punjab under climate change scenario.
103	Mr. Supankar Das	supo125@gmail.com	9041987951	A study of climate extremes on plant & soil
104	Ms. Gurinder Kaur	gurinder2005@yahoo.co.in	9463109647	Climate Change : Why is India more vulnerable
105	Ms. Rashmi	rashmi305@gmail.com	8968649061	Climate Change : Why is India more vulnerable
106	Ms. Sonia Puri	soniagpuri@gmail.com	9646121657	
107	Capt. M. Chandra	mihir2211@rediffmail.com	8901330981	
108	Ms. Mayuri S. Modi	mayuri7000@gmail.com	9404241984	Characteristics of rain drop size distribution on windward & leeward side of western ghat mountain
109	Mr. Kishlay Kumar Singh	kishlay.kumar.singh@gmail.com	8288979188	Impact of excess/deficient rainfall on paddy yields in district Amritsar, Punjab
110	Mr. Dhruva Banerjee	dhrubabanerjee81@gmail.com	9477008490	A study of tropical cyclones over BOB and Arabian Sea during 1990 to 2009 and solar influence on it.
111	Mr. S. Sridharan	snsridharan@narl.gov.in	9441981312	Identification & trend analysis of homogeneous rainfall over India
112	Mr. Remya R.	rr.remya22@gmail.com	7403626324	Cold wave in north India during sudden stratospheric warming.
113	Dr. Swapan Mallick	swapan@ncmrwf.gov.in	9717430360	Use of satellite soil moisture analysis.
114	Dr. Omvir Singh	ovshome@gmail.com	9467054590	A geographical study of lightning causalities over India: 1979-2011
120	Dr. Ashis Kumar Mitra	ashis.mitra@nic.in	9891926236	Rainfall Analysis
121	Ms. Priti Sharma	priti@ncmrwf.gov.in	9013384166	Validation of INSAT - 3D AMVS
122	Dr. D. Rajan	drajan@ncmrwf.gov.in	9818051053	Diurnal variation of extreme weather events seen by observation and prediction.
123	Dr. R.K. Jenamani	rjenamani@hotmail.com	9971022981	Urban impact of temperature at palam.

Guidelines to Authors

General

Only original work should be submitted. It should not have been published earlier in any form or should not be under consideration elsewhere. Manuscripts should be sent, in duplicate, (with 2 sets of diagrams, on original and the other photocopy) to the Managing Editor, Vayu Mandal, C/o Mausam Bhawan ; Lodi Road, New Delhi – 110003.

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Articles should be as brief as full documentation allows. They should not usually exceed 5-6 printed pages (approx.. 4000 words) including diagrams. Invited articles can be upto 10 pages. Paper must be written clearly and concisely with consistency in style and spelling, and typed double spaced on good paper. The format is 'Abstract', 'Keywords', 'Introduction', 'Data and Method', 'Discussion', 'Summary/Conclusion', 'Acknowledgements' (if any), and 'References',

Title

Title should be specific, brief and informative of the subject discussed.

Keywords

Up to five key words should be provided.

Abstract

The abstract should be typed on a separate page and should not exceed 100 words.

Text

Only standard abbreviations should be used. All measurements should be in SI units. Avoid beginning of a sentence with numbers.

Tables

All tables must be numbered serially and be placed at the end. Tables should carry brief titles. Abbreviations used in the table should be defined at the bottom of the table.

Illustrations

A set of original drawing on transparency paper and photocopies must be sent along with the manuscript. All diagrams must be neatly labeled. Maximum size of a diagram can be A4 size.

References

References in the text should be cited by authors name and year of publication. The references should contain the author(s) name(s), year, title, name of the journal, (in standard abbreviations), Vol. No. , and pages. References to book should contain name of Editor, if any, preceded by, Ed(s), place of publication, publisher, and year of publication and chapter or pages referred to. References to thesis should contain the degree, the year in which submitted, the university and the place. Samples are given below :

Mooley D.A. and Munot, A.A., 1993, 'Variation in the relationship of the Indian Summer Monsoon with global factors', Proc. Indian Acad. Sci., (Earth Planet Sci.) Vol. 102, No. 1, pp.89-104.

Asnani G.C., Tropical Meteorology, Pune, 1993, pp 120-134.

Phillips N.A. The atmosphere in Motion', Ed. B. Bolin, New York Rockefeller Inst. Press., 1959, pp 501-504.

Singh U.S., 'Some studies on Vertical Motion and diabatic heating over the Indian Monsoon region', Ph.D Thesis 1975, Banaras Hindu University, India.

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