

Prof. B. N. Goswami, FASc,FNA,FNASc,FTWAS

1.	Full name(s)	Prof. B.N. Goswami
2.	Date & Place of Birth	1-8-1950, Assam
3.	Designation & Office Address	Pisharoty Chair Professor, Earth and Climate Science Department Indian Institute of Science Education and Research, Dr. Homi Bhabha Road, Pashan, Pune-411008
4.	Telephone Mobile phone Fax Email	020 25908267 +919860201144 020 25865142 goswami@iiserpune.ac.in bhupengoswami100@gmail.com
5.	Residential address	ANANATRANG Plot # 6, NCL 'B' Housing Society Lane 1, Near Spring Flower Appts. Panchavati Pashan Pune-411008

7. Academic & Professional Qualifications
(State in chronological order)

Sr.No.	Degree / Diploma	University	Year	Achievements / Subjects
1.	High School Leaving certificate	Assam State Board	1965	First Class

2.	Pre-University	Assam State Board	1966	6 th Rank
2.	B.Sc.	Cotton College, Guwahati	1969	Physics (Hons)
4.	M.Sc.	Guwahati University	1971	Physics
5.	Ph.D.	Gujarat University (Physical Research Laboratory)	1976	Plasma Physics

8. Employment particulars

(Start with present one) :

Name & address of Employer	Period	Designation
Indian Institute of Science Education and Research, Pune	Sept. 2014 –Nov.2015	Pisharoty Chair Professor, MoES Earth and Climate Science Department
Indian Institute of Tropical Meteorology, Pashan, Pune-411008	June 2006 – July 2014	Director
Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore	2005 (August)- to 2006 (May)	Chairman
Institute for Global Environment and Society (IGES), Maryland, USA	1998 (June-July)	Visiting Research Scientist
Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore	1998 (May)	Professor
Program in Atmospheric and Oceanic Sciences, Princeton University, Princeton, USA	1994 (July) 1995 (January) 1995 (May-July)	Visiting Research Scientist
United Nations Industrial Development Organization (UNIDO) at International Centre For Science and High Technology, Trieste, Italy	1992 (July-August)	Consultant
Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore	1992-1998	Associate Professor
Centre for Ocean-Land-Atmosphere Interactions Univ. of	1988-1989	Senior Visiting Research Associate

Maryland, USA		
Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore 560 012	1985-1992	Assistant Professor
Indian Institute of Technology, New Delhi	1983-1985	Senior Scientific Officer
NASA, GSFC, Modelling and Simulation Branch, Greenbelt, MD-USA	1982-1983	Visiting Scientist of Universities Space Research Association, USA
NASA, GSFC, Modelling and Simulation Branch, Greenbelt, MD-USA	1980-1982	Resident Research Associate of National Research Council, USA
M.I.T, Cambridge, Mass., USA (with Prof. Jule Charney)	1978-1980	Post Doctoral Research Associate
Physical Research Laboratory, Ahmedabad, India	1978 (March-September)	Research Associate
Physical Research Laboratory, Ahmedabad, India	1976-1978	Visiting Scientist

8.	<p>Membership of Academic / Professional bodies, with details of positions held :</p> <ul style="list-style-type: none"> • Member, Joint Scientific Committee (JSC) of World Climate Research Program (WCRP) supported by WMO/ICSU (2011-2014). • Member of the Council of Indian Academy of Science, Bangalore, (2010- 2012) • Member, American Meteorological Society • Member, Academic Council, University of Pune, Pune, India • Member, Science and Engineering Research Board, Department of Science and Technology, New Delhi • Chairman, Research Advisory Committee, INCOIS, Hyderabad (2012-2015). • Member, Senate, IISER-Pune (2010-20014) • Member, CLIVAR Monsoon Panel of the International CLIVAR Project of World Climate Research Programme (WCRP) (1999-2002) • Member, WCRP National Committee (1995-1997) • Life Member, Indian Meteorological Society • Member, World Climate Research Programme (WCRP) National Committee (1995-1997) • Member, Programme Advisory Committee (PAC) in Atmospheric Sciences of Department of Science and Technology (1998-2001) • Member, Physical Sciences Research Committee of CSIR (1998- 2004) • Member, Advisory Committee to evaluate DST FIST Proposals
----	--

<ul style="list-style-type: none"> • Member, Research Council of Centre for Earth Science Studies (CESS), 2003-2005, Trivandrum • Secretary, Indian Meteorological Society, Bangalore Chapter (1996- 2000) • Member, Editorial Board of International Journal of Climatology • Member, Science Education Panel of the Indian Academy of Science, Bangalore (2004-2006) • Member, Earth Commission, Ministry of Earth Sciences, Govt. of India • Member, CLIVAR Scientific Steering Group (WCRP) – 4 years from January 1, 2008. • Ex-officio Member, Expert Committee set up by Prime Minister on Impacts of Climate Change – 3 years from May 2007 • Member, Standing Committee on Ocean Resources & Meteorology (SC-OM) since May 2007, ISRO and MoES • Member, Steering Committee – National Disaster Management Authority since February 2007 • Member, SERC (Science & Engineering Research Council) – of DST for 3 years (2007-2010) with effect from 19 March 2007. • Member, Sectional Committee V (Earth Sciences) INSA for 3 years from January1.2007 • Member, S&T Cooperation – China - as nodal scientist – Climate Change & Forecasting, DST • Member, India UK S&T Cooperation (Joint Evaluation Panel) Weather Science and Climate Change), DST • Member, Committee on Definition of Monsoon Season, MoES, New Delhi • Member, CLIVAR Monsoon Panel of the International CLIVAR Project of World Climate Research Programme (WCRP) • Member, Advisory Committee to evaluate DST FIST Proposals on Earth Sciences • Member, Program Advisory & Monitoring Committee (PAMC), Indian Climate Research Programme, DST • Member, Program Advisory Council, Earth Sciences, DST • Member, Research Advisory Committee, NCAOR, Goa • Member, Indian National Science Academy, Sectional Committee on Earth Sciences • Member, PAMC-WCRP of the Department of Science & Technology • Member, Project Management Council (PMC) meeting of Project INDOMODSATCORE Project • Member, Sectional Committee on Earth Sciences, Indian Academy of Science, Bangalore • Member, Research Advisory Committee (RAC) of Indian National Centre for Ocean Information Services (INCOIS), Hyderabad • Member, Program Advisory and Monitoring Committee-Himalayan Glaciology (PAMC-HG) of DST • Member, Editorial Board, International Journal of Climatology, Royal Meteorological Society
--

	<ul style="list-style-type: none"> • Member, Editorial Board, Current Science, Current Science Association • Member, Editorial Board, Mausam • Member, Scientific Advisory and Review Committee (SARC) for Atmospheric Science Programs, MoES, New Delhi, for 3 years w.e.f. 12 August 2008. • Member, Core Committee on “National Mission on Strategic Knowledge on Climate Change” for Implementation of the National Mission on Climate Change, DST, New Delhi for 3 years w.e.f. 26 August 2008. • Member, Joint Scientific Committee of World Climate Research Programme (WCRP)/IOC/ICSU, WMO for the period 1 January 2009 to 31 December 2012. • Indian Member, on the Scientific Planning Group of the Asia Pacific Network (APN SPG) for Global Change Research, Kobe, Japan. • Honorary Editorial Board Member for the Magazine “Planet Earth”, Hyderabad. • Member, Steering Committee, Irrigation Department, Govt. of Maharashtra to undertake hydrological studies for the Mumbai Metropolitan Region. • Convener, INSA, Pune Chapter for 3 years 1.4.2009 to 31.3.2012. • Chairman, Standing Advisory Committee for Atmospheric Research and Climate Change (SAC-ARCC), MoES, for a period of 3 years with effect from 25th Feb. 2009. • Member, Judging Committee for the ‘Biennial MAUSAM Award’, June 2009 to May 2013. • Indian Steering Committee for the FOS 2011 - Indo-US S&T Forum (IUSSTF) • External Expert Member, Senate, Tezpur University, Tezpur (2012-)
--	---

10.	<p><i>Recognition / Awards / Honours / Fellowships</i></p> <ul style="list-style-type: none"> • Shanti Swarup Bhatnagar Award, in Earth, Atmosphere, Ocean and Planetary Sciences, 1995 by Council of Scientific and Industrial Research, India • Hari Om Ashram Prerit Vikram Sarabhai Award in Space Science including Atmospheric Science, 1994, Physical Research Laboratory, Ahmedabad • Kamal Kumari National Award in Science and Technology, 2008 by Kamal Kumari Foundation • K.R. Ramanathan Prize by Indian National Science Academy, 2008 • Fellow, The World Academy of Sciences (FTWAS) • Fellow, Indian Academy of Sciences, (FASc) • Fellow, Indian National Science Academy, (FNA) • Fellow, National Academy of Sciences, India ,(FNASc) • Fellow, Indian Meteorological Society (IMS) • National Award in Atmospheric Science and Technology, 2014 by the Ministry of Earth Sciences • VASVIK National Industrial Research Award in Environmental Science and
-----	---

Engineering for 2012

- **K. R. Ramanathan Medal, Indian Geophysical Union, 2014**

11. Describe specific major achievements (the work may be described in detail in separate enclosures along with list of publications/patents/supporting evidence etc.)

1. Identifying the two time scale associated with the growth of errors in the tropical climate system, Prof. Goswami established, for the first time, limit on predictability of the tropical climate and showed directions for improving the skill of model predictions (**J. Climate, 1991**).
2. Discovery of the 'Indian Ocean Dipole Mode' with his student Saji et. al (**Nature 1999**) has opened up a floodgate of research in the role of air-sea interactions over the Indian Ocean on climate of the region. The paper is cited more than 1400 times.
3. His discovery of increasing trend of extreme rainfall events (**Science 2006**) has brought to the fore role of climate change on Indian monsoon and encouraged the policy makes to take action on adaptation and hazard prevention. Paper is cited more than 300 times.
4. Heading the Monsoon Mission Project of the Ministry of Earth Sciences, Prof. Goswami has led a group of young scientists to develop an Indian Climate Model for long range prediction of monsoon rainfall. This effort has also led to the development of the IITM Earth System model for climate change projections, a land mark achievement in the history of Indian Climate Research (**BAMS, 2015**).

(List of publications attached separately)

12. Institution Building

With his Vision '*To make IITM a Global Centre of Excellence in basic research on tropical ocean-atmosphere system required for improving weather and climate forecasts over the monsoon region*' Prof Goswami provided inspired leadership during 2006 and 2014 and transformed IITM to a leadership position in climate research. He achieved this goal through implementing

- (a) Focused Science Plan in (i) Seasonal and Extended Prediction of monsoon, (ii) Global and regional climate change research and (iii) Physics and Dynamics of Tropical Clouds
- (b) Infrastructure development , both physical and scientific
- (c) Capacity building and manpower development

The computing and communication infrastructure in the Institute has been 20 year behind for doing state of the art climate modeling and large scale diagnostic study with large volume of data. The need for a high performance computer (super computer) was felt for a long time but the previous Directors could not convince the authorities to provide one to IITM. Prof. Goswami as a part of the 11-Plan proposal convinced the MoES on the need and a HPC with more than 5 Teraflop was procured in 2008.

With planned augmentation, the capacity was increased to 70 TF in 2010 and further to 790 TF in 2014! **In November, 2014, this is No. 1 Supercomputer in India and No.34 in the world!!**

With vigorous efforts Prof. Goswami inducted about 70 new and bright young scientists to IITM during this period thereby reducing the average of scientists from 47 to 42 years.

He also started several innovative programs such as the Centre for Advanced Training in Earth System Science and Climate (CAT-ESSC), a job-linked Training program to attract bright young scientists to the field.

He introduced the concept of 'Monsoon Mission' to involve the academic community to work on the National Operational Weather and Climate Prediction system and improve the skill of the weather and climate forecasts. This has led to a quantum jump in young scientists in the country working on model developments for improving forecasts of weather and climate.

As a result of addressing big science questions adequately supported by necessary infrastructure and training, the impact factor publications of IITM increased by a factor of 4 (from 42 to 170) during the past eight years without significant increase in the total number of scientists. Not only the quantity of the publications but the quality of the publications increased by a factor of almost 8 with average impact factor per publication improving from 0.3 in 2007 to 2.5 in 2014. Through these dedicated efforts, Prof. Goswami has been able to take the country in the field of weather and climate science from about 25 years behind the best in the world in 2007 to a position comparable to the global leaders in the field in 2014.

13. Evaluation of the impact on national prosperity of this work and economic gains and other benefits derived:

Prof Goswami's efforts in installing state of the art Climate Prediction system at IITM and short and medium range weather prediction system at IMD and supporting them with state of the art HPC, has led to perceptible improvement in the skill of weather and climate forecasts in the country. This has led to improved confidence of the common man as well as the policy makers on the forecasts by IMD. The economic benefit to the farmers from the improved climate and weather forecasts is estimated to be about Rs. 50,000 Crores per year.

Research Areas:

Indian Summer Monsoon Variability, Predictability of the Tropical Coupled Ocean-Atmosphere System, Climate Modelling, Modelling of Large Scale Air-Sea Interactions in the Tropics, Theoretical Study of Large Scale Tropical Dynamics using Simple Models.

	<p>Publications : Papers in referred Journal/referred book chapters : 166; Highest cited paper: IOD paper in Nature Sep. 23, 1999: more than 2000 times Paper in Science, 2006 is cited more than 600 times No. of papers cited more than 100 time : 15 No. of papers cited more than 50 times: 25 H-index : 36 (Google Scholar)</p>

Important Scientific Achievements:

- For the first time, the observed northward propagating intraseasonal oscillations of the monsoon cloud band with 30-50 day time scale was simulated by a zonally symmetric general circulation model and a physical mechanism for the basic oscillation was provided (**J. Atmos. Sci., 1984**)
- A physical mechanism for the observed north-northwest movement of the Monsoon Depressions provided (**Nature, 1987**)
- First quantitative estimates of the predictability of the tropical coupled ocean-atmosphere system made (**J.Climate, 1991**)
- A set of intraseasonal unstable modes due to coupled moist processes have been discovered in the tropical coupled ocean atmosphere system and linked to a periodicity of the coupled system (**Geophys. Res. Lett., 1991; Proc. Indi. Acad. Sci. (EPS), 1993**)
- The physical mechanism behind the "Spring predictability barrier" in the coupled ocean atmosphere system has been identified. This has laid the foundation for developing initialization scheme for coupled forecasts (**Mon. Wea. Rev., 1997**)
- An improved linear model for simulating both the annual cycle and interannual variability of surface wind in the tropics has been developed (**Q. J. Roy. Met. Soc., 1996**)
- A quasi-biennial oscillation (QBO) of the tropical atmosphere that can be sustained purely due to internal dynamics has been discovered based on a series of multiyear integrations with a GCM (**J. Climate, 1998**)
- A new broad scale index for the Indian summer monsoon has been proposed based on precipitation and a corresponding circulation index has been discovered which relates strongly with the proposed Indian monsoon precipitation (**Q. J. Roy. Met. Soc., 1999**)
- Analyses of daily surface winds for ten years reveal the seminal role played by the intraseasonal oscillations in modulating both synoptic and interannual variability of the Indian summer monsoon (**Proc. Ind. Aca. Sci., 1998**)

- A new mode of variability discovered in the Indian ocean, namely the Indian Ocean Dipole Mode (**Nature, 1999**)
- A mechanism of ENSO-monsoon interaction on interdecadal time scale has been elucidated (**J. Climate, 2000**)
- Role of monsoon intraseasonal oscillations in limiting the predictability of the seasonal mean has been established (**J. Climate, 2001**)
- Predictability of monsoon ISOs has been estimated and an empirical model for predicting monsoon breaks about 3 weeks in advance has been developed (**Geophys. Res. Lett, 2003**)
- The mechanism of structure and scale selection of the quasi-biweekly mode (QBM) of the monsoon has been identified (**Q. J. Roy. Met. Soc., 2004**)
- Identification of a new extratropical teleconnection pathway through which ENSO influences the Indian monsoon rainfall via modification of meridional gradient of tropospheric temperature (**Geophys. Res. Lett. 2005**)
- Unraveling of a physical mechanism of how north Atlantic SST influences Indian monsoon on interdecadal and longer time scales. (**Geophys. Res. Lett. 2006**)
- Applicability of the regime transition rules for the Lorenz model in predicting the duration of monsoon breaks is explored. (**Geophysic. Res. Lett., 2006**)
- Factors responsible for limited predictability of the Asian summer monsoon are investigated within a conceptual frame work of predictability. (**J. Climate, 2006**)
- The first evidence of a significant rising trend in the frequency and intensity of heavy rain events and decreasing trend in the frequency of light to moderate rain events over central India in the monsoon season during 1951-2000 is produced. (**Science, December 2006**)
- For the first time , a mechanism through which absorbing aerosols influence Indian monsoon on intraseasonal scale has been discovered (**Climate Dynamics, 2010**)
- Unraveled a mechanism through which planetary scale Equatorial Rossby waves influence the monsoons ISOs and interannual variability of seasonal mean monsoon (**J. Geophys. Res. 2011**)

Most Important Publications:

Keshavamurty, R.N., Satyan, V., and **Goswami, B.N.** 1978: Indian Summer Monsoon cyclogenesis and its variability, **Nature**, 274, 576-578.

Goswami, B.N. and J. Shukla, 1984: Quasi-periodic oscillations in a symmetric general circulation model, **J. Atmos. Sci.**, 41, 20-37.

Goswami, B.N. 1987: A mechanism for the West Northwest movement of the monsoon depressions. **Nature**, 326, 376-370.

Goswami, B.N. and Shukla, J. 1991: Predictability of a coupled ocean atmosphere model. **J. Climate**, 4, 3-22.

Goswami B. N. 1995: A multiscale interaction model for the origin of the tropospheric QBO. **J. Climate**, 8, 529-539.

Goswami B. N., Annamalai H and Krishnamurthy V 1999: A broad scale circulation index for interannual variability of the Indian summer monsoon. **Q. J. Roy. Meteorol. Soc.**, 125, 611-633.

Saji N. H., **Goswami B. N.**, Vinayachandran P. N. and Yamagata T., 1999: A dipole mode in the tropical Indian Ocean, **Nature**, 401, 360-363.

Goswami B. N. and Ajaya Mohan R. S. 2001: Intra-seasonal oscillations and inter-annual variability of the Indian summer monsoon. **J. Climate**, 14, 1180-1198.

Goswami, B. N. and Prince K Xavier, 2003: Potential Predictability and Extended Range Prediction of Indian Summer Monsoon Breaks **Geophys. Res. Lett.**, 30(18) 1966, doi:10.1029/2003GL017,810, 2003.

Chatterjee Piyali and **Goswami B. N.**, 2004: Structure, genesis and scale selection of the tropical quasi-biweekly mode **Q. J. R. Meteorol. Soc.**, 130, 1171-1194.

Goswami B. N. and Xavier Prince K., 2005: ENSO control on the South Asian Monsoon through the length of the rainy season , **Geophys. Res. Lett.** 32, L18717, doi:10.1029/2005GL023216.

Goswami B. N. , V. Venugopal, D. Sengupta, Prince K. Xavier and M. S. Madhusoodanan, 2006 **Science**, 314, 5804, 1 December, 1442-1445.

Full List of refereed Publications

Publications: (Total : 166) as on Nov, 10, 2016

1. **Goswami, B.N.**, S.A. Rao, D. Sengupta, and S. Chakravorty. 2016. Monsoons to mixing in the Bay of Bengal: Multiscale air-sea interactions and monsoon predictability. *Oceanography* 29(2):18–27, <http://dx.doi.org/10.5670/oceanog.2016.35>.
2. Goswami, B.B. & **Goswami, B.N.**, 2016: A road map for improving dry-bias in simulating the South Asian monsoon precipitation by climate models. *Climate Dynamics* (Nov. 2016). doi:10.1007/s00382-016-3439-2
3. Medha Deshpande ; P. Mukhopadhyay ; Michiko Masutani ; Zaizhong Ma ; Lars Peter Riishojgaard ; Michael Hardesty ; Dave Emmitt ; T. N. Krishnamurti ; B. N. Goswami, 2016, Analysis and evaluation of Observing System Simulation Experiments (OSSEs) forecast data for Indian summer monsoon , *Proc. SPIE 9882, Remote Sensing and Modeling of the Atmosphere, Oceans, and Interactions VI, 98821P* (May 3, 2016); doi:10.1117/12.2223656
4. Kumar, Siddharth, Anika Arora, R. Chattopadhyay, Anupam Hazra, Suryachandra A. Rao and **B. N. Goswami**, 2016, Seminal role of stratiform clouds in large-scale aggregation of tropical rain in boreal summer monsoon intraseasonal oscillations, *Clim. Dyn.* , DOI 10.1007/s00382-016-3124-5
5. Halder, S., Saha, S. K., Dirmeyer, P. A., Chase, T. N., and **Goswami, B. N.**: Investigating the impact of land-use land-cover change on Indian summer monsoon daily rainfall and temperature during 1951–2005 using a regional climate model, *Hydrol. Earth Syst. Sci. Discuss.*, 12, 6575–6633, doi:10.5194/hessd-12-6575-2015, 2015
6. R. Krishnan, T.P. Sabin, R. Vellore, M. Mujumdar, J. Sanjay, **B. N. Goswami**, F. Hourdin, J.-L. Dufrene, P. Terray, 2015: Deciphering the desiccation trend of the South Asian monsoon hydroclimate in a warming world. *Climate Dynamics*, DOI 10.1007/s00382-015-2886-5
7. Dwivedi, Suneet, **B. N. Goswami** and F. Kucharsk, 2015: Unraveling the missing link of ENSO Control over the Indian Monsoon Rainfall, *Geophys. Res. Lett.* 42, doi:10.1002/2015GL065909.
8. Goswami, B., R. Krishna, P. Mukhopadhyay, M. Khairoutdinov, and **B. N. Goswami**, 2015: Simulation of the Indian Summer Monsoon in the Superparameterized Climate Forecast System version 2: Preliminary Results. *J. Climate*. doi:10.1175/JCLI-D-14-00607.1,
9. Dhruvajyoti Samanta, M. K. Dash, **B. N. Goswami** and P. C. Pandey, 2015: Extratropical Anticyclonic Rossby Wave Breaking and Indian Summer Monsoon Failure, *Climate Dynamics* , DOI 10.1007/s00382-015-2661-7.
10. Mathew Roxy, Kapoor Ritika, Pascal Terray, Raghu Murtugudde, Karumuri Ashok, and **B.N. Goswami**, 2015 : Drying of Indian Subcontinent by Rapid Indian Ocean Warming and a Weakening Land-Sea Thermal Gradient, *Nature Communications* , DOI: 10.1038/ncomms842
11. Rajib Chattopadhyay, R. Phani¹, C. T. Sabeerali, A. R. Dhakate, K. Salunke, S. Mahapatra, A. Suryachandra Rao, **B. N. Goswami**, 2015: Influence of Extra-tropical Sea Surface Temperature on the Indian summer Monsoon: An unexplored source of seasonal predictability, *Quart. J. Roy. Met. Soc.* DOI:10.1002/qj.2562
12. Swapna P., Roxy M., Aparna K., Kulkarni K., Prajeesh A.G., Ashok K., Krishnan R., Moorthi S., Kumar A., **Goswami B.N.**, 2015: IITM Earth System Model: Transformation of a Seasonal

- Prediction Model to a Long Term Climate Model, *Bulletin of the American Meteorological Society*, 96, 1351-1367, DOI:10.1175/BAMS-D-13-00276.1.
13. Hazra Anupam, H. S. Chaudhari, S. A. Rao, **B. N. Goswami**, A. Dhakate, S. Pokhrel and S.K.Saha, 2015 : Impact of revised cloud microphysical scheme in CFSv2 on the simulation of the India summer monsoon, *Int. J. Climatol.* DOI: 10.1002/joc.4320
 14. **Goswami B. N.**, R. H. Kriplani, H. P. Borgaonkar and B. Preethi, 2015: Multi-decadal variability of Indian summer monsoon rainfall using proxy data, *Climate Change : Multi-decadal and beyond*, Chapt. 21, pp. 327-346, (Editors: C.P. Chang, Michael Ghil, Mojib Latif, and Mike Wallace), World Scientific, New Jersey, London, Singapore, Beijing, Chennai
 15. C. T. Sabeerali · Suryachandra A. Rao · A. R. Dhakate · K. Salunke · **B. N. Goswami**, 2014 : Why ensemble mean projection of south Asian monsoon rainfall by CMIP5 models is not reliable? *Clim Dyn*, DOI [10.1007/s00382-014-2269-3](https://doi.org/10.1007/s00382-014-2269-3)
 16. Taraphdar, S., P. Mukhopadhyay, L. Ruby Leung, F. Zhang, S. Abhilash and **B.N. Goswami**, 2014 : Role of moist processes in the intrinsic predictability of Indian ocean cyclones, *Journal of Geophysical Research*, 119, July 2014, DOI:10.1002/2013JD021265, 1-17
 17. Konwar, Mahen S.K. Das, S.M. Deshpande, K. Chakravaarty and **B.N. Go swami**, 2014 : Microphysics of cloud and rain water over the Western Ghat. *J. Geophys. Res. Atmosphere*, doi : 10.1002/2014JDO021606.
 18. Bidyut, B., Go swami, Medha Deshpande, P. Mukhopadhyay, S.K. Saha, Suryachandra A. Rao, Raghu Murtugudde, **B.N. Goswami**, 2014, Simulation of monsoon intraseasonal Variability in NCEP CFS v.2 and its role on Systematic bias, *Climate Dynamics*, doi : 10.1007/s00382-014-2089-5.
 19. Abhilash S., Sahai A.K., Borah N., Chattopadhyay R., Joseph S., Sharmila S., De S., **Goswami B.N.**, Arun Kumar, [Prediction and monitoring of monsoon intraseasonal oscillations over Indian monsoon region in an ensemble prediction system using CFSv2](#), *Climate Dynamics*, online, January 2014, DOI:10.1007/s00382-013-2045-9, 1-15
 20. Goswami B.B., Deshpande M.S., Mukhopadhyay P., Saha Subodh K., Rao Suryachandra A., Murthugudde R., **Goswami B.N.**, 2014: [Simulation of monsoon intraseasonal variability in NCEP CFSv2 and its role on systematic bias](#), *Climate Dynamics*, Published online, February 2014, DOI:10.1007/s00382-014-2089-5, 1-21
 21. Carolina Vera, William Gutowski, R. Mechoso, **B.N. Goswami**, Chris C. Reason, et al., 2013, Understanding and Predicting Climate Variability and Change of monsoon regions, in *Climate Science for Serving Society, Research Modeling and Prediction Priorities*, Ghasim Asrar, and James Harrell (Eds.) Sorubger.

22. Abhilash S., Sahai A. K., Pattnaik S., **Goswami B.N.**, Arun Kumar, 2014: [Extended range prediction of active-break spells of Indian summer monsoon rainfall using an ensemble prediction system in NCEP Climate Forecast System](#), *International Journal of Climatology*, Vol.34, 2014, DOI:10.1002/joc.3668, 98-113
23. Sahai A.K., Chattopadhyay R., Joseph S., Borah N., **Goswami B.N.**, 2013: [New method to compute the principal components from self-organizing maps: an application to monsoon intraseasonal oscillations](#), *International Journal of Climatology* , Published online, December 2013, DOI:10.1002/joc.3885, 1-15
24. Abhilash S., Sahai A.K., Borah N., Chattopadhyay R., Joseph S., Sharmila S., De S., **Goswami B.N.**, 2013: [Does bias correction in the forecasted SST improve the extended range prediction skill of active-break spells of Indian summer monsoon rainfall?](#), *Atmospheric Science Letters* , Published online, December 2013, DOI:10.1002/asl2.477, 1-6
25. Mahakur M., Prabhu A., Sharma A.K., Rao V.R., Senroy S., Singh R., **Goswami B.N.**, 2013: [A high-resolution outgoing longwave radiation dataset from Kalpana-1 satellite during 2004-2012](#), *Current Science*, 105, October 2013, 1124-1133
26. Padmakumari B., Jaswal A.K., **Goswami B.N.**, 2013: [Decrease in evaporation over the Indian monsoon region: implication on regional hydrological cycle](#), *Climatic Change*, Published online, October 2013, DOI:10.1007/s10584-013-0957-3, 1-13
27. Goswami B.B., Mukhopadhyay P., Khairoutdinov M., **Goswami B.N.**, 2013: [Simulation of Indian summer monsoon intraseasonal oscillations in a superparameterized coupled climate model: need to improve the embedded cloud resolving model](#), *Clim. Dyn.*, 41, September 2013, DOI:10.1007/s00382-012-1563-1, 1497-1507
28. Borah N., Sahai A.K., Chattopadhyay R., Joseph S., Abhilash S., **Goswami B.N.**, 2013: [Self-organizing map-based ensemble forecast system for extended range prediction of active/break cycles of Indian summer monsoon](#), *J. Geophys. Res.*, published online 30 August 2013, Vol. 118, DOI:10.1002/jgrd.50688, 1-13
29. Siddharth Kumar, Hazra A., **Goswami B.N.**, 2013: [Role of interaction between dynamics, thermodynamics and cloud microphysics on summer monsoon precipitating clouds over the Myanmar Coast and the Western Ghat](#), *Clim. Dyn.*, published online August 2013, DOI:10.1007/s00382-013-1909-3, 1-14
30. **Goswami B.N.**, Krishnan R., 2013: [Opportunities and challenges in monsoon prediction in a changing climate - Editorial of Special OCHAMP issue](#), *Clim. Dyn.*, vol. 41, July 2013, DOI:10.1007/s00382-013-1835-4, 1
31. Sharmila S., Pillai P.A., Joseph S., Roxy M., Krishna R.P.M., Chattopadhyay R., Abhilash S., Sahai A.K., **Goswami B.N.**, 2013: [Role of ocean-atmosphere interaction on northward propagation of Indian summer monsoon intra-seasonal oscillations \(MISO\)](#), *Clim. Dyn.*, 41, September 2013, DOI:10.1007/s00382-013-1854-1, 1651-1669

32. Abhik S., Mukhopadhyay P., **Goswami B.N.**, 2013: [Evaluation of mean and intraseasonal variability of Indian summer monsoon simulation in ECHAM5: identification of possible source of bias](#), *Clim. Dyn.*, Published online, 16 June 2013, DOI:10.1007/s00382-013-1824-7, 1-18
33. Suhas E., Neena J.M., **Goswami B.N.**, 2013: [An Indian monsoon intraseasonal oscillations \(MISO\) index for real time monitoring and forecast verification](#), *Clim. Dyn.*, 40, DOI:10.1007/s00382-012-1462-5, 2605-2616
34. Deshpande N.R., **Goswami B.N.**, 2013: [Modulation of the diurnal cycle of rainfall over India by intraseasonal variations of Indian summer monsoon](#), *Int. J. Clim.*, Published online, May 2013, DOI:10.1002/joc.3719, 1-15
35. Hazra A., **Goswami B.N.**, Chen J-P, 2013: [Role of Interactions between Aerosol Radiative Effect, Dynamics and Cloud Microphysics on Transitions of Monsoon Intraseasonal Oscillations](#), *J. Atmos. Sc.*, 70, July 2013, DOI:10.1175/JAS-D-12-0179.1, 2073-2087
36. Padmakumari B., Maheskumar R.S., Morwal S.B., Harikishan G., Konwar M., Kulkarni J.R., **Goswami B.N.**, 2013: [Aircraft observations of elevated pollution layers near the foothills of the Himalayas during CAIPEEX-2009](#), *Q.J.R.M.S.*, vol. 139, April 2013, DOI:10.1002/qj.1989, 625-638
37. Padmakumari B., Maheskumar R.S., Harikishan G., Kulkarni J.R., **Goswami B.N.**, 2013: [Comparative study of aircraft- and satellite-derived aerosol and cloud microphysical parameters during CAIPEEX-2009 over the Indian region](#), *Int. J. Rem. Sensing*, vol. 34, January 2013, DOI:10.1080/01431161.2012.705442, 358-373
38. Dipu S., Prabha T.V., Pandithurai G., Dudhia J., Pfister G., Rajesh K., **Goswami B.N.**, 2013: [Impact of elevated aerosol layer on the cloud macrophysical properties prior to monsoon onset](#), *Atmos. Env.*, vol. 70, 2013, DOI:10.1016/j.atmosenv.2012.12.036, 454-467
39. Fadnavis S., Raj P.E., Buchunde P., **Goswami B.N.**, 2013: [In search of influence of stratospheric Quasi-Biennial Oscillation on tropical cyclones tracks over the Bay of Bengal region](#), *Int. J. Clim.*, Published online, 2013, DOI:10.1002/joc.3706, 1-14
40. Abhik S., Halder M., Mukhopadhyay P., Jiang X., **Goswami B.N.**, 2013: [A possible new mechanism for northward propagation of boreal summer intraseasonal oscillations based on TRMM and MERRA reanalysis](#), *Climate Dynamics*, vol. 40, 2013, DOI:10.1007/s00382-012-1425-x, 1611-1624
41. Pattnaik S., Abhilash S., De S., Sahai A.K., Phani R., **Goswami B.N.**, 2013: [Influence of convective parameterization on the systematic errors of Climate Forecast System \(CFS\) model over the Indian region from an extended range forecast perspective](#), *Climate Dynamics*, 41, July 2013, DOI:10.1007/s00382-013-1662-7, 341-365
42. Prabha T.V., Patade S., Pandithurai G., Khain A., Axisa D., Pradeep Kumar P., Maheshkumar R.S., Kulkarni J.R., **Goswami B.N.**, 2012: [Spectral width of premonsoon and monsoon clouds over Indo-Gangetic valley](#), *J. Geophys. Res.*, vol. 117, D20205, DOI:10.1029/2011JD016837, 1-15

43. Pandithurai G., Dipu S., Prabha T.V., Maheskumar R.S., Kulkarni J.R., **Goswami B.N.**, 2012: [Aerosol effect on droplet spectral dispersion in warm continental cumuli](#), *J. Geophys. Res.*, vol. 117, D16202, DOI:10.1029/2011JD016532, 1-15
44. Morwal S.B., Maheshkumar R.S., Padma Kumari B., Kulkarni J.R., **Goswami B.N.**, 2012: [Cloud microphysical properties over Indian monsoon regions during CAIPEEX-2009](#), *J. Atm. Solar Terr. Phy.*, 81-82, DOI:10.1016/j.jastp.2012.04.01076-85, 76-85
45. Waliser D.E., Moncrieff M.W., Burridge D., Fink A.H., Gochis D., **Goswami B.N.** Guan B., Harr P., Heming J., Hsu H-H, Jakob C., Janiga M., Johnson R., Jones S., Knippertz P., Marengo J., Nguyen H., Pope M., Serra Y., Thorncroft C., Wheeler M., Wood R., Yuter S., 2012: [The Year of tropical convection \(May 2008-April 2010\) Climate Variability and Weather highlights](#), *B.A.M.S.*, August 2012, DOI:10.1175/2011BAMS3095.1, 1-31
46. Saha Subodh Kumar, Halder S., Suryachandra A. Rao, **Goswami B.N.**, 2012: [Modulation of ISOs by Land-Atmosphere Feedback and Contribution to the Interannual Variability of Indian Summer Monsoon.](#), *J. Geophys. Res.*, July 2012, 117, D13101, doi:10.1029/2011JD017291, 1-14
47. Chakraborty S., **Goswami B.N.**, Dutta K., 2012: [Pacific coral oxygen isotope and the tropospheric temperature gradient over the Asian monsoon region: a tool to reconstruct past Indian summer monsoon rainfall](#), *J. Quaternary Sc.*, doi: 10.1002/jqs.1541 27, June 2012, 269-278
48. Konwar M., Maheskumar R.S., Kulkarni J.R., Freud E., **Goswami B.N.**, Rosenfeld D., 2012: [Aerosol control on depth of warm rain in convective clouds](#), *J. Geophys. Res.*, Vol. 117, July 2012, D13204, doi: 10.1029/2012JD017585, 1-10
49. Konwar M., Parekh A., **Goswami B.N.**, 2012: [Dynamics of east-west asymmetry of Indian Summer Monsoon rainfall trends in recent decades.](#), *Geophys. Res. Lett.*, 39, May 2012, doi:10.1029/2012GL052018, L10708, 1-6
50. Prabha T.V., Karipot A., Axisa D., Padma Kumari B., Konwar M., Kulkarni J.R., **Goswami B.N.**, 2012: [Scale interactions near the foothills of Himalayas during CAIPEEX](#), *J. Geophys. Res.*, 117, doi: 10.1029/2011JD016754, D10203
51. Joseph S., Sahai A.K., **Goswami B.N.** Terray P., Masson S., Luo J.-J., 2011: [Possible role of warm SST bias in the simulation of boreal summer monsoon in SINTEX-F2 coupled model](#), *Climate Dynamics*, April 2012, 38, pp.1561-1576, DOI 10.1007/s00382-011-1264-1.
52. Kulkarni J.R., Maheshkumar R.S., Morwal S.B., Padma kumari B., Konwar M., Deshpande C.G., Joshi R.R., Bhalwankar R.V., Pandithurai G., Safai P.D., Narkhedkar S.G., Dani K.K., Nath A., Nair Sathy, Sapre V.V., Puranik P.V., Kandalgaonkar S.S., Mujumdar V.R., Khaladkar R.M., Vijaykumar R., Prabha T.V., **Goswami B.N.** 2012: [Cloud Aerosol Interaction and Precipitation Enhancement Experiment \(CAIPEEX\): overview and preliminary results](#), *Current Science*, 102, pp. 413-425
53. Suhas E., Neena J.M., **Goswami B.N.**, 2012: [Interannual Variability of Indian Summer Monsoon arising from Interactions between Seasonal Mean and Intraseasonal Oscillations](#), *J. Atmos. Sc.*, 69, doi: 10.1175/JAS-D-11-0211.1, 1761-1774

54. Urankar G. M., Prabha T.V., Pandithurai G., Prabhu P.M., Achuthavarier D., **Goswami B.N.**, 2012: [Aerosol and cloud feedbacks on surface energy balance over selected regions of Indian subcontinent](#), *J. Geophys. Res.*, 117, doi:10.1029/2011JD016363, D04210, 1-16
55. Joseph S., Sahai A.K., Chattopadhyay R., **Goswami B.N.**, 2011: [Can El-Nino and Southern Oscillation \(ENSO\) events modulate intraseasonal oscillations of Indian summer monsoon?](#), *J. Geophys. Res.*, 116, D20123, doi:10.1029/2010JD015510
56. Manoj M.G., Devara P.C.S., Safai P.D., **Goswami B.N.** 2011: [Absorbing aerosols facilitate transition of Indian monsoon breaks to active spells](#), *Climate Dynamics*, 37, December 2011, pp.2181-2198, DOI 10.1007/s00382-010-0971-3.
57. Krishna Kumar K., Kamala K., Rajagopalan B., Hoerling M.P., Eischeid J.K., Patwardhan S.K., Srinivasan G., **Goswami B.N.**, Nemanai R., 2011: [The once and future pulse of Indian monsoonal climate](#), *Climate Dynamics*, 36, 2011, pp.2159-2170, DOI 10.1007/s00382-010-0974-0.
58. Saha S.K., Halder S., Krishna Kumar K., **Goswami B.N.** 2011: [Pre-onset land surface processes and 'internal' interannual variabilities of the Indian summer monsoon](#), *Climate Dynamics*, vol.36, June 2011, 2011-2089, DOI 10.1007/s00382-010-0886-z
59. Goswami B.B., Neena J.M., Mukhopadhyay P., Waliser D.E., Benedict J.J., Maloney E.D., Khairoutdinov M., **Goswami B.N.**, 2011: [Monsoon Intraseasonal Oscillations as simulated by the Superparameterized Community Atmosphere Model](#), *J. Geophys. Res.*, 116, doi:10.1029/2011JD015948
60. **Goswami B.N.**, Wheeler M.C., Gottschalck J.C. and Waliser D.E., 2011: [Intra- seasonal Variability and Forecasting: A Review of Recent Research](#), *The Global Monsoon System: Research and Forecast, 2nd Edition*, World Scientific Publication Company in collaboration with WMO, vol. 5, pp.389-407
61. Prabha T.V., **Goswami B.N.**, Murthy B.S., Kulkarni J.R., 2011: [Nocturnal low-level jet and 'atmospheric streams' over the rain shadow region of Indian Western Ghats](#), *Q. J. R. Meteorol. Soc.*, 137, pp. 1273-1287, DOI:10.1002/qj.818
62. Prabha T.V., Khain A., Maheshkumar R.S., Pandithurai G., Kulkarni J.R., Konwar M. **Goswami B.N.**, 2011: [Microphysics of pre-monsoon and monsoon clouds as seen from in situ measurements during CAIPEEX](#), *J. Atmo. Sci*, 68, pp. 1882-1901, doi: 10.1175/2011JAS3707.1
63. Neena J.M., Suhas E., **Goswami B.N.** 2011: [Leading role of internal dynamics in the 2009 Indian Summer Monsoon drought](#), *J. Geophys. Res.*, 116, D13103, doi:10.1029/2010JD015328
64. Vialard J., Jayakumar A., Gnanaseelan C., Lengaigne M., Sengupta D., **Goswami B.N.** 2011: [Processes of 30-90 days sea surface temperature variability in the northern Indian Ocean during boreal summer](#), *Clim. Dyn.*, 68, DOI 10.1007/s00382-011-1015-3, 1901-1916

65. Mukhopadhyay, P., S. Taraphdar, **Goswami B.N.** 2011: [Influence of moist processes on track and intensity forecast of cyclones over the North Indian Ocean](#), *J. Geophys. Res.*, 116, D05116, pp.1-21, doi:10.1029/2010JD014700
66. Mujumdar M., Salunke K., Suryachandra Rao A., Ravichandran M., **Goswami B.N.** 2011: [Diurnal cycle induced amplification of sea surface temperature Intraseasonal oscillations over the Bay of Bengal in summer monsoon season](#), *IEEE Geoscience and Remote Sensing Letters*, 29, pp.206-210
67. Joseph S., Sahai A.K., **Goswami B.N.** 2010: [Boreal summer intraseasonal oscillations and seasonal Indian monsoon prediction in DEMETER coupled models](#), *Climate Dynamics*, vol.35, pp.651-667
68. **Goswami B.N.**, Kulkarni J.R., Mujumdar V.R., Chattopadhyay 2009: [On factors responsible for recent secular trend in the onset phase of monsoon intraseasonal oscillations](#), *International Journal of Climatology*, vol. 30, pp.2240-2246, Short Communication, doi:10.1002/joc.2041
69. Suryachandra A. Rao, Chaudhari H.S., Pokhrel S., **Goswami B.N.** 2010: [Unusual central Indian drought of summer monsoon - 2008: Role of Southern Tropical Indian Ocean warming](#), *Journal of Climate*, 23, 5163-5174
70. Taraphdar S., Mukhopadhyay P., **Goswami B.N.** 2010: [Predictability of Indian summer monsoon weather during active and break phases using a high resolution regional model](#), *Geophys. Res. Lett.*, 37, L21812, 1-6, doi:10.1029/2010GL044969
71. Mukhopadhyay P., Taraphdar S., **Goswami B.N.**, Krishna Kumar K., 2010: [Indian summer monsoon precipitation climatology in a high resolution regional climate model: Impact of convective parameterization on systematic biases](#), *Weather and Forecasting*, Vol. 25, 369-387, doi:10.1175/2009WAF2222320.1
72. Padma Kumari B., **Goswami B.N.**, 2010: [Seminal role of clouds on solar dimming over the Indian monsoon region](#), *Geophys. Res. Lett.*, 37, L06703, pp.1-5, doi:10.1029/2009GL042133
73. Goswami B.B., Mukhopadhyay P., Mahanta R., **Goswami B.N.**, 2010: [Multiscale interaction with Topography and Extreme Rainfall Events in the North-East Indian region](#), *J. Geophys. Res.*, Vol. 115, doi:10.1029/2009JD012275, D12114
74. Suhas E., **Goswami B.N.**, 2010: [Loss of significance and multidecadal variability of the Madden-Julian oscillation](#), *Journal of Climate*, 23, p.3739-3759, doi:10.1175/2010JCLI3180.1
75. Neena J.M., **Goswami B.N.**, 2010: [Extension of potential predictability of Indian summer monsoon dry and wet spells in recent decades](#), *Quarterly Journal of Royal Meteorological Society*, 136, pp.583-592
76. Chattopadhyay R., **Goswami B.N.**, Sahai A.K., Fraedrich K., 2009: [Role of stratiform rainfall in modifying the northward propagation of Monsoon Intraseasonal Oscillation](#), *J. Geophys. Res.*, 114, D19114, doi:10.1029/2009JD011869, pp.1-15

77. Joseph S., Sahai A.K., **B N Goswami**, 2009 : [Eastward propagating MJO during boreal summer and Indian monsoon droughts](#), *Climate Dynamics*, 32, DOI 10.1007/s00382-008-0412-8, pp. 1139-1153
78. Mani N.J., Suhas E., **Goswami B.N.**, 2009: [Can global warming make Indian monsoon weather less predictable?](#), *Geophysical Research Letters*, 36, L08811, pp.1-5, doi:10.1029/2009GL037989
79. Suhas E., **Goswami B.N.**, 2008: [Regime shift in Indian summer monsoon climatological intraseasonal oscillations](#), *Geophysical Research Letters*, 35, L20703, pp.1-6, doi:10.1029/2008GL035511
80. Sahai A.K., Chattopadhyay R., **Goswami B.N.**, 2008: [SST based large multi-model ensemble forecasting system for Indian summer monsoon rainfall](#), *Geophysical Research Letters*, 35, L19705, pp.1-9, doi:10.1029/2008GL035461
81. Chattopadhyay R., Sahai A.K., **Goswami B.N.**, 2008: [Objective Identification of Nonlinear Convectively Coupled Phases of Monsoon Intraseasonal Oscillation: Implications for Prediction](#), *J. Atmo. Sci.*, 65, 1549-1569
82. P. K. Xavier and **B N Goswami**, 2007 : [Analog method for realtime forecasting of summer monsoon subseasonal variability](#), *Mon. Weather Review* 135, 4149-4160
83. Xavier P.K., **Goswami B. N.**, 2007: [Promising alternative to prediction of seasonal mean all India rainfall](#), *Current Science*, 93, 195-202
84. Ajaya Mohan, R. S. and **Goswami B. N.**, 2007: [Dependence of simulation of boreal tropical summer intraseasonal oscillations on simulation of seasonal mean](#). *J. Atmo. Sci.* , 64, 460-478
85. P. K. Xavier, C. Marzin and **B. N. Goswami**, 2007: [An objective definition of the Indian summer monsoon season and a new perspective on ENSO-monsoon relationship](#), *Q. J. Meteorol. Soc.* 133, 749-764
86. Sengupta D., Senana R., **Goswami B.N.** and J. Vialard, 2005, [Intraseasonal variability of equatorial Indian Ocean zonal currents](#), *J. Climate* (2007), 20, 3036-3055
87. **Goswami B.N.**, Venugopal V., Sengupta D., Madhusoodanan M.S., Xavier Prince K., 2006: [Increasing trend of Extreme Rain Events over India in a Warming Environment](#), *Science*, 314, 5804, 1 December, 1442-1445.
88. **Goswami B.N.**, Wu G., Yasunari T. 2006: [Annual cycle, Intraseasonal Oscillations and Roadblock to seasonal predictability of the Asian summer monsoon](#), *J. Climate*, 19, 5078-5099
89. Suneet Dwivedi, Ashok Kumar Mittal, **B. N. Goswami**, 2006: [An empirical rule for extended range prediction of duration of Indian summer monsoon breaks](#). *Geophys. Res. Lett.*, 33, L18801, doi:10.1029/2006GL027035.

90. **B. N. Goswami**, M. S. Madhusoodanan, C. P. Neema, and D. Sengupta, 2006: [A physical mechanism for North Atlantic SST influence on the Indian summer monsoon](#), *Geophys. Res. Lett.*, 33, L02706, doi:10.1029/2005GL024803
91. **Goswami B. N.** and Xavier Prince K., 2005: [ENSO control on the South Asian Monsoon through the length of the rainy season](#) *Geophys. Res. Lett.* 32, L18717, doi:10.1029/2005GL023216.
92. **B. N. Goswami** and Prince K. Xavier, 2005: [Dynamics of 'Internal' Interannual Variability of Indian Summer Monsoon in a GCM](#) *J. Geophys. Res.*, 110, D24104, doi:10.1029/2005JD006042.
93. **B. N. Goswami**, 2005: [South Asian Monsoon](#): in *Intraseasonal Variability of the Atmosphere-Ocean Climate System*, Eds. William K. M. Lau and Duane E. Waliser Chapter 2, Praxis, Springer Berlin Heidelberg, 19-61 pp.
94. B. N. Goswami, 2005: The Asian monsoon: Interdecadal Variability, in *The Asian Monsoon*, Eds, Bin Wang, Chapter 7, Praxis, Springer Berlin Heidelberg, 295-327 pp.
95. **B. N. Goswami**, 2004: [Interdecadal Change in Potential Predictability of the Indian Summer Monsoon](#), *Geophys. Res. Lett.* 31, L16208, doi:10.1029/2004GL020337.
96. Piyali Chatterjee and **B. N. Goswami** , 2004: [Structure, genesis and scale selection of the tropical quasi-biweekly mode](#), *Q. J. R. Meteorol. Soc.* 130, 1171-1194.
97. **Goswami, B N** and Prince K Xavier , 2003: [Potential Predictability and Extended Range Prediction of Indian Summer Monsoon Breaks](#), *Geophys. Res. Lett.* 30(18), 1966, doi:10.1029/2003GL017,810, 2003.
98. Retish Senan, Debasis Sengupta and **B N Goswami**, 2003: [Intraseasonal 'monsoon jets' in the equatorial Indian Ocean](#), *Geophys. Res. Lett.* 30(14), 1750, doi:10.1029/2003GL017583, 2003.
99. **Goswami, B N**, R.S Ajaya Mohan, Prince K Xavier and D. Sengupta, 2003:[Clustering of Low Pressure Systems During the Indian Summer Monsoon by Intraseasonal Oscillations](#), *Geophys. Res. Lett.* 30 (8), 1431, doi: 10.1029/2002GL016734, 2003.
100. **Goswami, B N**, and E. N. Rajagopal, 2003: [Indian Ocean Surface Winds from NCMRWF Analysis as Compared to QuikSCAT and Moored Buoy Winds](#), *Proc. Indian. Acad. Sci. (Earth & Planetary Sci.)*, 112, No. 1, March 2003, pp. 61-77
101. **Goswami, B N**, and D. Sengupta, 2003: [A Note on the Deficiency of NCEP/NCAR Reanalysis Surface Winds over the Equatorial Indian Ocean](#). *J. Geophys. Res.*, 108(C4), 3124, doi:10.1029/2002JC001497, 2003.
102. Ajaya Mohan R S and **B N Goswami**, 2003: [Potential Predictability of the Asian Summer Monsoon on Monthly and Seasonal Time Scales](#) *Meteor. Atmos. Phys.* DOI 10.1007/s00703-002-0576-4.
103. **Goswami B N** and Ajaya Mohan R S, 2001: [Intra-seasonal oscillations and inter-annual variability of the Indian summer monsoon](#), *J. Climate*, 14, 1180-1198.

104. **Goswami B N** and Jayavelu V, 2001: [On possible impact of the Indian summer monsoon on the ENSO](#), *Geophys. Res. Letts*, 28, 571-574.
105. **Goswami B N** and Manu Anna Thomas, 2001: [Decadal variations of Hadley and Walker Circulations in the tropics](#), *Mausam* (special issue on Global and Regional Climate Change), 52, 23-36.
106. **Goswami B N** and Ajaya Mohan R S, 2001: [Intra-seasonal oscillations and Predictability of the Indian summer monsoon](#), *Proc. Ind. Natl. Sci. Aca.*, 67A(3), 369-383.
107. **Goswami B N** and Ajaya Mohan R S, 2001: [Estimate of monthly mean predictability in the tropics from observations](#), *Current Science*, 80, 56-63.
108. Sengupta, D., Senan R. and **Goswami B. N.**, 2001: [Origin of intraseasonal variability of circulation in the tropical central Indian Ocean](#), *Geophys. Res. Letts*. 28, 1267-1270.
109. Sengupta, D., **Goswami B. N.** and Senan, R 2001: [Coherent intraseasonal oscillations of ocean and atmosphere during the Asian summer monsoon](#), *Geophys. Res. Letts.*28, 4127-4131.
110. **Goswami B. N.** and Manu Anna Thomas 2000: [Walker circulation associated with interdecadal and interannual variability in the tropics](#), Meteorological Society of Japan, 78, 765-775.
111. Krishnamurthy V and **Goswami B. N.** 2000: [Indian monsoon-ENSO relationship on interdecadal time scales](#), *J. Climate* , 13, 579-595.
112. **Goswami B. N.** , 2000: [Comments on 'Choice of South Asian Summer Monsoon Indices'](#), *Bull. Amer. Meteorol. Soc.*, 81, 821-822.
113. **Goswami B. N.** and Ajaya Mohan R S, 2000: [A common spatial mode for intra-seasonal and inter-annual variation and predictability of the Indian summer monsoon](#), *Curr. Sci*, 79, 1106-1111.
114. **Goswami B. N.** and Manu Anna Thomas, 2000: [Coupled Ocean-atmosphere inter-decadal modes in the tropics](#), *J. Met. Soc. Japan*, 78, 765-775.
115. **Goswami B. N.**, Annamalai H and Krishnamurthy , 1999: [A broad scale circulation index for interannual variability of the Indian summer monsoon](#), *Q. J. Roy. Met. Soc.*, 125, 611-633.
116. Saji N H, **Goswami B. N.**, Vinayachandran P N and Yamagata T 1999: [A dipole mode in the tropical Indian Ocean](#), *Nature*. 401, 360-363. [[download pdf file](#)]
117. **Goswami B. N.** 1998: [Interannual variation of Indian summer monsoon in a GCM: External conditions versus internal feedbacks](#), *J. Climate*, 11, 501-522.

118. **Goswami B. N.** 1998: [Physics of ENSO-Monsoon connection](#), *Ind. J. Marine Sci.*, 27, 82-89.
119. **Goswami B. N.**, Sengupta D and Suresh Kumar 1998: [Intraseasonal oscillations and interannual variability of surface winds over the Indian monsoon region](#), *Proc. Ind. Acad. Sci. (Earth and Planetary Sci.)*, 107, 45-64.
120. **Goswami B. N.**, Rajendran K and Sengupta D 1997: [Source of seasonality and scale dependence of predictability in a coupled ocean-atmosphere model](#), *Mon. Wea. Rev.*, 125, 846-858.
121. Saji N. H. and **Goswami B. N.** 1997: [An intercomparison of the seasonal cycle of tropical surface stress simulated by 17 AMIP GCMs](#), *Climate Dynamics*, 13, 561-585.
122. **Goswami B. N.** 1997: [Chaos and predictability of the Indian summer monsoon](#), *Pramana - J. Physics*, 48, 719-736.
123. **Goswami B. N.** 1996: [The challenge of weather prediction: what makes it difficult; Part II: The conceptual and technical difficulties](#), *RESONANCE, Ind. Acad. Sci.*, Bangalore, Jan. 1997.
124. **Goswami B. N.** 1996: [The challenge of weather prediction: what makes it difficult; Part III: Old and new ways of weather prediction](#), *RESONANCE, Ind. Acad. Sci.*, Bangalore, March 1997.
125. **Goswami B. N.** and Annamalai H. 1996: [Origin of a trend in ECMWF wind analysis and its objective removal: Importance in interannual variability studies](#), *Proc. Ind. Acad. Sci. (Earth & Planetary Sci.)*, 105, 101-117.
126. Chandrasekar A. and **Goswami B. N.** 1996: [Feedback between convective heating and dynamics and movements of tropical cyclones](#), *Meteorol. Atmos. Phys.*, 61, 55-64.
127. Saji N. H. and **Goswami B. N.** 1996: [An improved linear model of tropical surface wind variability](#), *Q. J. Roy. Meteorol. Soc.*, 122, 23-53.
128. Chandrasekar A. and **Goswami B. N.** 1996: [A linear model study of the mid tropospheric ridge and its displacement](#), *Mausam*, 47, 369-376.
129. Goswami P. and **Goswami B. N.** 1996: [Reply to "Comments on modification of n=0 equatorial waves due to interaction between convection and dynamics"](#) by Smith and Srinivasan, *J. Atmos. Sci.*, 53, 919-922.
130. **Goswami B. N.** 1996: [The challenge of weather prediction: what makes it difficult; Part I: Basic driving](#), *RESONANCE, Ind. Acad. Sci.*, Bangalore, Nov. 1996.
131. **Goswami B. N.** 1995: [Modelling and predictability studies of the tropical coupled ocean-atmosphere system](#), *J. Ind. Inst. Sci.*, (Special Issue of Fluid Mechanics Research), 75, 403-430.

132. Anantharaman A., **Goswami B. N.** and Chandrasekar A. 1995: [Lyapunov exponent and predictability of the tropical coupled ocean-atmosphere system](#), *Current Science*, 68, 946-950.
133. Biswas M., **Goswami B. N.** and Chandrasekar A. 1995: [Bispectra of a tropical coupled ocean-atmosphere system](#), *Current Science*, 68, 1236-1243.
134. **Goswami B. N.**, Krishnamurthy V. and Saji N. H. 1995: [Simulation of ENSO related surface winds in the tropics by an AGCM forced by observed SST](#), *Mon. Wea. Rev.*, 123, 1677-1694.
135. **Goswami B. N.** 1995: [A multiscale interaction model for the origin of the tropospheric QBO](#), *J. Climate*, 8, 529-539.
136. **Goswami B. N.** 1994: [Dynamical predictability of seasonal mean monsoon rainfall: Problems and Prospects](#), *Proc. Ind. Natl. Sci. Aca. Part A*, 60, 101-120.
137. **Goswami B. N.**, Sudha Selvarajan and Krishnamurthy V 1993: [Mechanisms of variability and predictability of the tropical ocean-atmosphere system](#). *Proc. Ind. Academy Sci. (Earth & Planet. Sci.)*, 102, 49-72.
138. Krishnamurthy V., **Goswami B. N.** and Legnani R 1993: [A conceptual model for the aperiodicity of Interannual variability in the tropics](#), *Geophys. Res. Letts.* 20, 435-438.
139. **Goswami B. N.** and Shukla J. 1993: [Aperiodic variability in the Cane-Zebiak model: A diagnostic study](#). *J. Climate*, 6, 628-638
140. **Goswami B. N.** and Goswami P. 1992: [Mechanisms of some tropical intraseasonal oscillations](#), *Geophys. Res. Letts.*, 19, 681-684.
141. Selvarajan Sudha and **Goswami B. N.** 1992: [On the stability of a coupled ocean atmosphere system in the presence of wave-CISK](#), *Proc. Indian Aca. Sci. (Earth & Planetary Sci.)*, 101, 153-176
142. **Goswami B. N.** and Selvarajan Sudha 1991: [Convergence feedback and unstable low frequency oscillations in a simple coupled ocean-atmosphere model](#), *Geophys. Res. Lett.*, 18, 991-994.
143. Goswami P. and **Goswami B. N.** 1991: [Modification of \$n = 0\$ equatorial waves due to interaction between convection and dynamics](#), *J. Atmos. Sci.*, 48, 2231-2244.
144. Selvarajan Sudha, **Goswami B. N.** and Sankar Rao M. 1991: [Regional and seasonal dependence of the stability of a tropical coupled ocean-atmosphere system](#). *Atmospheric Research*, 26, 425-444.
145. **Goswami B.N.** and Shukla, J. 1991: [Predictability and variability of a coupled ocean atmosphere model](#), *J. Marine Systems*, 1, 217-228.

146. **Goswami B.N.** and Shukla, J. 1991: [Predictability of a coupled ocean atmosphere model](#), *J. Climate*, 4, 3-22.
147. **Goswami, B.N.** 1988: [Potential marine deck sampling problems over monsoonal oceans](#), *Trop. Ocean-Atmos. Newsletter* Jan. issue (pp 2-4).
148. Rao, Kusuma G., **Goswami B. N.**, 1988: [Interannual Variations of Sea Surface Temperature over the Arabian Sea and the Indian Monsoon: A New Perspective](#). **Monthly Weather Review**, 116, 558–568.
149. **Goswami B.N.** 1987: [A mechanism for the West Northwest movement of the monsoon depressions](#), *Nature*, 326, 376-370.
150. **Goswami B. N.** 1985: [The sensitivity of the NH summer mean meridional circulation to changes in the large scale eddy forcing](#). *Proc. Indian Academy of Sciences (Earth and Planet. Sci.)*, 94, 219-235.
151. **Goswami, B.N.**, J. Shukla, E.K. Schneider and Y. Sud 1984: [Study of the dynamics of the Inter-tropical convergence zone with a symmetric version of the GLAS Climatic Model](#), *J. Atmos. Sci.*, 41, 5-19.
152. **Goswami, B.N.** and J. Shukla, 1984: [Quasi-periodic oscillations in a symmetric general circulation model](#), *J. Atmos. Sci.*, 41, 20-37.
153. **Goswami, B.N.** 1983: [Theoretical study of multiple equilibria in simple axisymmetric tropical circulations](#), *Tellus*, 35A, 119-1335.
154. Jain, R.K. and **Goswami, B.N.** V. Satyan, and R.N. Keshavamurty, 1981: [Envelope soliton solution for Finite Amplitude Equatorial Waves](#), *Proc. Indian Academy of Sciences (Earth and Planet. Sci.)*, 90, 305-326.
155. Satyan, V., Keshavamurty, R.N., **Goswami, B.N.**, Dash, S.K. and H.S. Sinha, 1980: [Monsoon Cyclogenesis and Large Scale Flow Patterns over South Asia](#), *Proc. Indian Academy of Sciences (Earth and Planet. Sci.)*, 89, 277-292.
156. **Goswami, B.N.**, R.N. Keshavamurty, and V. Satyan, 1980: [Role of Barotropic-Baroclinic Instability on the Growth of Monsoon Depressions and Mid-tropospheric cyclones](#), *Proc. Indian Academy of Sciences (Earth Planet. Sci.)*, 89, 79-97.
157. Keshavamurty, R.N., Satyan, V., and **Goswami, B.N.** 1978: [Indian Summer Monsoon cyclogenesis and its variability](#), *Nature*, 274, 576-578.
158. **Goswami, B.N.** and Sinha, Mukul, 1978: [Effect of Cold Electron in the Linear and Nonlinear Ion Acoustic Waves](#), *Plasma Phys.*, 20, 91-93.
159. **Goswami, B.N.**, Satya, Y.S. and Kulkarni, V.H., 1977: [Drift dissipative instability in a two temperature plasma](#), *Pramana*, 9, 171-178.

160. Sinha, Mukul and **Goswami, B.N.** 1977: [Magnetosonic wave in the presence of a lower hybrid turbulence and plasma heating](#), *Phys. Fluids*, 20, 2145.
161. Satya Y.S. and **Goswami, B.N.** 1977: [Ion Acoustic Solitary Waves in the presence of a high frequency electric field](#), *Phys. Lett.*, 61A, 388-390.
162. **Goswami, B.N.** and Buti, B., 1977: [Finite Amplitude Drift Waves in a Collisional Plasma](#), *Plasma Phys.*, 19, 53-61.
163. **Goswami, B.N.** and Sinha Mukul, 1976: [Ion Acoustic Solitary Waves in Inhomogeneous Media with Temperature Inhomogeneity](#), *Pramana*, 7, 141-145.
164. **Goswami, B.N.** and Buti, B., 1976: [Ion Acoustic Solitary Waves in a two-electron temperature plasma](#), *Phys. Lett.*, 57A, 149-150.
165. **Goswami, B.N.** and Buti B., 1975: [Cross-field current driven electrostatic instability in plasma with generalized distribution function](#), *Nucl. Fusion*, 15, 991-997.
- 166. Goswami, B.N.**, Lakhina, G.S., and Buti, B. 1974: [Return-current instability and its effects on Beam-Plasma System](#), *Pramana*, 3, 10-27.
-