

Curriculum Vitae  
**Govindasamy Bala\***

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**EDUCATION:**

Ph.D., 1994, McGill University, Canada (Department of Atmospheric and Oceanic Sciences), Dean's Honor list, Prof. Peter Yau (Thesis Advisor)  
M.Sc, 1988, University of Poona, India (Physics) - Distinction  
B.Sc, 1986, University of Madras, India (Physics)

**EXPERIENCE:**

1994 - 1996: Visiting Scientist, GFDL/Princeton University, Princeton, NJ, USA  
1996 - 1998: Staff Research Associate, University of California, Los Angeles/Lawrence Livermore National Laboratory, Livermore, CA, USA  
1998- May 2008: Physicist, Lawrence Livermore National Laboratory, Livermore, CA, USA  
June 2008-March 2014: Associate Professor, Indian Institute of Science, Bangalore, India  
April 2014-: Professor, Indian Institute of Science, Bangalore, India

**RESEARCH INTERESTS:**

Global climate change, Carbon Cycle, Earth System Modeling, Radiative forcing and Feedbacks, Climate Engineering, Land use change, High-resolution climate modeling.

**Ph. D THESIS**

Title: On the interaction between Slantwise Convection and Marine Cyclones

**MEMBERSHIPS:**

American Geophysical Union – Member, 1996-present  
Advisor, Indian Climate Research Network  
Member, Expert Committee on Climate Change, Ministry of Environment and Forest, Government of India

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\* (Please note that the authorship of earlier publications and conference presentations is indicated as either B. Govindasamy or G. Balasubramanian)

## HONORS AND AWARDS

1. World Meteorological Organization's (WMO) Norbert Gerbier MUMM International Award for 2014 for the research paper entitled “*Climate response to changes to atmospheric carbon dioxide and solar irradiance on the time scale of days to weeks*”. This paper was published 2012 in the Environmental Research Letters, Volume 7. Shared the award with collaborators Profs. Long Cao of China and Ken Caldeira of USA.
2. Lead Author for the carbon cycle chapter in IPCC WG1 AR5 report
3. Contributing author for Chapter 7 on clouds and aerosols in IPCC WG1 AR5 report
4. Scopus Young Scientist Award in Earth Sciences 2008
5. McGill-CIDA (Canadian International Development Agency) Fellowship, 1990-1994.

## CITATION INDICES (Source: Google Scholar, as of September 2014)

	All	Since 2009
<a href="#">Citations</a>	5263	4182
<a href="#">h-index</a>	32	29
<a href="#">i10-index</a>	49	44

## REVIEWER

1. Nature
2. Nature Geoscience
3. Nature Climate Change
4. Nature Communications
5. Philosophical transactions of the Royal Society (A)
6. Current Science
7. Sadhana- Academy Proceedings in Engineering Science
8. Journal of Climate
9. Geophysical Research Letters
10. Journal of Geophysical Research – Atmospheres
11. Journal of Geophysical Research – Biogeosciences
12. Climate Dynamics
13. Climatic Change
14. Climate Research
15. Atmospheric Science Letters
16. Environmental Research Letters
17. EOS
18. International Journal of Greenhouse gas control
19. Journal of Earth System Science
20. Frontiers in Ecology and the Environment
21. Global Environmental Change
22. Advances in Space Research
23. Biogeosciences
24. Global Change Biology Bioenergy
25. Journal of Biosciences
26. Journal of Advances in Modeling Earth Systems
27. International Journal of Climatology
28. International Journal of Global Warming
29. Agricultural and Forest Meteorology
30. Earth Interactions
31. DST proposals
32. US DOE's Climate Change Prediction Program (CCPP) proposals
33. US National Science Foundation (NSF), Climate and Large scale dynamics Program.
34. Stanford University's GCEP proposal

## EDITOR

1. Editor, **Earth System Dynamics** (A journal of the European Geophysical Union)
2. Guest Editor, Special section of **Current Science** on "Climate Change: Projections and Impact s in India", August 2011
3. Guest Editor for 2 papers related to climate change, Current Science, 2011

## PEER-REVIEWED PUBLICATIONS\*:

1. Sharma, J., Sujata Uggupta, Rajesh Kumar, R. Chaturvedi, **G. Bala**, N.H. Ravindranath, 2014: Assessment of ‘inherent vulnerability’ of forests for building resilience to climate change in Western Ghats Karnataka, India (submitted to Regional Environmental Change)
2. N. Devaraju, **G. Bala**, and R. Nemani, 2014: Modeling the influence of land-use changes on biophysical and biochemical interactions at regional and global scales (Revised for the special issue “Climate Smart Agriculture and Forestry” of *Plant, Cell and Environment*)
3. Sirisha, K., **G. Bala**, A. Modak and K. Caldeira, 2014: Modeling of Solar Radiation Management: A comparison of simulations using reduced solar constant and stratospheric aerosols, *Climate Dynamics* (in press)
4. Chaturvedi, R., A. Kulkarni, Y. Karyakarte, J. Joshi, **G. Bala**, 2014: Glacial Mass balance changes in Karakoram and Himalaya based on CMIP5 climate change projections, *Climatic Change*, DOI 10.1007/s10584-013-1052-5
5. Ciais, P., C. Sabine, **G. Bala**, L. Bopp, V. Brovkin, J. Canadell, A. Chhabra, R. DeFries, J. Galloway, M. Heimann, C. Jones, C. Le Quéré, R.B. Myneni, S. Piao and P. Thornton, 2013: Carbon and Other Biogeochemical Cycles. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA
6. Sharma, J., R. Chaturvedi, **G. Bala**, N. H. Ravindranath, 2013: Assessing “inherent vulnerability” of forests: a methodological approach and a case study from Western Ghats, India, *Mitigation and adaptation strategies under global change*, DOI 10.1007/s11027-013-9508-5
7. Sharma, J., R. Chaturvedi, **G. Bala**, N. H. Ravindranath, 2013: Challenges in vulnerability assessment of forest carbon management under climate change, *Carbon Management*, Vol. 4, No. 4, Pages 403-411 , DOI 10.4155/cmt.13.35
8. Angshuman Modak, and **G. Bala**, 2013: Stratospheric Geoengineering: Sensitivity of global hydrological cycle to meridional distribution of aerosols, *Atmos. Chem. and Phys. Discuss*, 13, 25387-25415, doi:10.5194/acpd-13-25387-2013.
9. **G. Bala**, N. Devaraju, R. K. Chaturvedi, K. Caldeira, R. Nemani, 2013: Nitrogen Deposition: How important is it for global terrestrial carbon uptake? *Biogeosciences*, 10, 7147–7160, doi:10.5194/bg-10-7147-2013 (Also published in *Biogeosciences Discussion*, 10, 11077-11109, doi:10.5194/bgd-10-11077-2013)
10. K. Caldeira, **G. Bala**, L.Cao, 2013: The Science of Geoengineering, *Annual Reviews in Earth and Planetary Sciences*, 41:231–56, 10.1146/annurev-earth-042711-105548
11. **G. Bala**, Jaideep Joshi, R. Chaturvedi, H.V. Gangamani, Hirofumi Hashimoto R. Nemani, 2013: Trends and Variability in AVHRR-derived NPP in India, *Remote Sens.* **2013**, 5, 810-829; doi:10.3390/rs5020810

12. Chaturvedi, R., Jaideep Joshi, J. Mathangi, **G. Bala**, N.H.Ravindranath, 2012: Multi-model projection of climate change for India under representative concentration pathways. *Current Science*, 103(7), 1-12.
13. **G. Bala**, Sujith Krishna, Devaraju Narayanappa, Long Cao, K. Caldeira, R. Nemani, 2012: An estimate of equilibrium sensitivity of terrestrial carbon cycle using NCAR CCSM4, *Climate Dynamics*, DOI 10.1007/s00382-012-1495-9
14. Cao, L., **G. Bala**, K. Caldeira, 2012: Climate response on the time scale of days to changes in atmospheric carbon dioxide, *Env. Res. Letters*, doi:10.1088/1748-9326/7/3/034015
15. **G. Bala**, and B. Nag, 2011: Albedo enhancement over land to counteract global warming: Impacts on hydrological cycle, *Climate Dynamics*, DOI 10.1007/s00382-011-1256-1
16. N.H. Ravindranath, Sandhya Rao, Nitasha Sharma, Malini Nair, R Gopalakrishnan, Ananya S. Rao, S. Malaviya, Rakesh Tiwari, Anitha Sagadevan, M. Munsu and **G. Bala**, 2011: Climate Change Vulnerability Profiles for Northeast India, *Current Science*, 101(3), 384-394.
17. R. Gopalakrishnan, Mathangi Jayaraman, **G. Bala** and N.H. Ravindranath, 2011: Impact of Climate Change on Indian Forests, *Current Science*, 101(3), 348-355.
18. N. Devaraju, L. Cao, **G. Bala**, K. Caldeira, and R. Nemani, 2011: A model investigation of vegetation-atmosphere interactions on a millennial time scale, *Biogeosciences*, doi:10.5194/bg-8-3677-2011, 8, 3677–3686, 2011 (Also, N. Devaraju, L. Cao, **G. Bala**, K. Caldeira, and R. Nemani, 2011: A model investigation of vegetation-atmosphere interactions on a millennial time scale, *Biogeosciences Discussion*, doi:10.5194/bgd-8-8761-2011)
19. G. Ban-Weiss, **G. Bala**, L. Cao, J. Pongratz and K. Caldeira, 2011: Climate forcing and response to idealized changes in surface latent and sensible heat fluxes, *Environmental Research Letters*, doi:10.1088/1748-9326/6/3/034032
20. R. Gopalakrishnan, **G. Bala**, M. Jayaraman, L. Cao, R. Nemani, N.H.Ravindranath, 2011: Sensitivity of terrestrial water and energy budgets to CO<sub>2</sub>-physiological forcing: an investigation using an offline land model, *Environmental Research Letters*, doi:10.1088/1748-9326/6/4/044013
21. G. Ban-Weiss, L. Cao, **G. Bala**, K. Caldeira, 2011: Dependence of surface climate response on the altitude of black carbon aerosols, *Climate Dynamics*, DOI 10.1007/s00382-011-1052-y
22. L. Cao, **G. Bala**, K. Caldeira, 2011: Why is there a short-term increase in global precipitation in response to diminished CO<sub>2</sub> forcing? *Geophys. Res. Lett.*, 38, L06703, doi:10.1029/2011GL046713
23. **G. Bala**, R. Gopalakrishnan, M. Jayaraman, R. Nemani, N. H. Ravindranath, 2010: CO<sub>2</sub>-fertilization and the potential terrestrial carbon uptake in India, *Mitigation and Adaptation Strategies for Global Change*, DOI 10.1007/s11027-010-9260-z
24. R. Chaturvedi, R. Gopalakrishnan, M. Jayaraman, K. Krishna, Savitha Patwardhan, **G. Bala**, N.V.Joshi, R. Sukumar, N.H.Ravindranath, 2010: Impact of climate change on Indian Forests: A dynamic modeling approach, *Mitigation and Adaptation Strategies for Global Change*, DOI 10.1007/s11027-010-9257-7
25. R. Gopalakrishnan, M. Jayaraman, R. Chaturvedi, **G. Bala**, N.H.Ravindranath, 2010: Effect of climate change on teak in India: A modeling based approach,

- Mitigation and Adaptation Strategies for Global Change*, DOI 10.1007/s11027-010-9258-6
26. **G. Bala**, K. Caldeira, R. Nemani, L. Cao, G. Ban-Weiss, and H. Shin, 2010: Albedo-enhancement of marine clouds to counteract global warming: Impacts on hydrology, *Climate Dynamics*, DOI 10.1007/s00382-010-0868-1
  27. M. Wehner, **G. Bala**, P. B. Duffy, B. Santer, A. Mirin, Raquel Romano, Joseph Sirutis, and Michael Fiorino, 2010: Towards direct simulation of future tropical cyclone statistics in a high resolution global atmospheric model, *Advances in Meteorology*, doi:10.1155/2010/915303
  28. L. Cao, **G. Bala**, K. Caldeira, R. Nemani, George Ban-Weiss, 2010: Differences between climate responses to CO<sub>2</sub>-radiative and CO<sub>2</sub>-physiological forcing, *Proceedings of the National Academy of Sciences*, 107 (21) 9513-9518.
  29. L. Cao, **G. Bala**, K. Caldeira, R. Nemani, George Ban-Weiss, 2009: Climate response to physiological forcing of carbon dioxide simulated by the coupled Community Atmosphere Model (CAM3.1) and Community Land Model (CLM3.0), *Geophysical Research Letters*, vol. 36, L10402, doi:10.1029/2009GL037724.
  30. **G. Bala**, K. Calderia, R. Nemani, 2009: Fast versus slow response in climate change: Implication to the global hydrological cycle, *Climate Dynamics*, DOI 10.1007/s00382-009-0583-y
  31. **G. Bala**, 2009: Problems with geoengineering schemes to combat climate change, *Current Science*, **96(1)**, 41-48.
  32. Das, T., H. G. Hidalgo, M. D. Dettinger, D. R. Cayan, D. W. Pierce, C. Bonfils, T. P. Barnett, **G. Bala**, A. Mirin: Structure and origins of trends in hydrological measures over the western United States, 2009: *Journal of Hydrometeorology*, 10, 871-892.
  33. M. Wehner, R. Smith, **G. Bala**, and P. Duffy, 2009: The effect of horizontal resolution on simulation of very extreme US precipitation events in a global atmosphere model, *Climate dynamics*, DOI 10.1007/s00382-009-0656-y
  34. P. Caldwell, S. Chin, D. Bader, and **G. Bala**, 2009: Evaluation of a WRF dynamical downscaling over California, *Climatic Change*, 95, 499-521.
  35. D. Lobell, **G. Bala**, A. Mirin, T. J. Phillips, R. Maxwell, D. Rotman, 2009: Regional differences in influence of irrigation on climate, *J. Climate*, 22, 2248-2255.
  36. Hidalgo H.G., Das T., Dettinger M.D., Cayan D.R., Pierce D.W., Barnett T.P., **Bala G.**, Mirin A., Wood, A.W., Bonfils C., Santer B.D., Nozawa T, 2008: Detection and attribution of climate change in streamflow timing of the western United States, *J. Climate*, 22, 3838-3855.
  37. **G. Bala**, R. Rood, D. Bader, A. Mirin, D. Ivanova, C. Drui, 2008: Simulated Climate near Steep Topography: Sensitivity to Dynamical Methods for Atmospheric Transport, *Geophys. Res. Lett.*, 35, L14807, doi: 10.1029/2008GL033204
  38. **G. Bala**, P. B. Duffy, and K. E. Taylor, 2008: Impact of geoengineering schemes on the global hydrological cycle, *Proceeding of the National Academy of Sciences*, **105(22)**, 7664-7669.
  39. Tim P. Barnett, David W. Pierce, Hugo G. Hidalgo, Celine Bonfils, Benjamin D. Santer, Tapash Das, **G. Bala**, Andrew W. Wood, Toru Nozawa, Arthur A. Mirin,

- Daniel R. Cayan, Michael D. Dettinger, 2008: Human-induced changes in the hydrology of the western United States, *Science*, **319**, 1080-1083.
40. Céline Bonfils, Benjamin D. Santer, David W. Pierce, Hugo G. Hidalgo, **G. Bala**, Tapash Das, Tim P. Barnett, Michael Dettinger, Daniel R. Cayan, Charles Doutriaux, Andrew W. Wood, Art Mirin, Toru Nozawa, 2008: Detection and attribution of temperature changes in the mountainous western United States, *J. Climate*, v. 21, p. 6404-6424.
  41. David W. Pierce, Tim P. Barnett, Hugo G. Hidalgo, Tapash Das, Celine Bonfils, Benjamin D. Santer, **G. Bala**, Michael D. Dettinger, Daniel R. Cayan, Art Mirin, Andrew W. Wood, Toru Nozawa, 2008: Attribution of declining western U.S. snowpack to human effects, *J. Climate*, v. 21, p. 6425-6444.
  42. **Bala, G.**, R. Rood, A. Mirin, J. McClean, K. Achuta Rao, D. Bader, P. Gleckler, R. Neale, P. Rash, 2008: Evaluation of a high-resolution CCSM3 simulation with a Finite Volume dynamical core for the atmosphere *J. Climate*, **21(7)**, 1467-1486.
  43. Kim, S.-J. T. J. Crowley, D. Erickson, **G. Bala**, P. B. Duffy, B. Y. Lee, High-resolution simulation of the last glacial maximum, 2008: *Climate Dynamics*, **31**, 1-16.
  44. **Bala, G.**, K. Caldeira, M. Wickett, T. J. Phillips, D. Lobell, C. Delire, and A. Mirin, 2007: Combined climate and carbon cycle effects of global deforestation, *Proceedings of the National Academy of Sciences*, 104(16), 6550-6555.
  45. Lobell, D., **G. Bala**, C. Bonfils, P. B. Duffy, 2006: Potential bias of model projected greenhouse warming in irrigated regions, *Geophys. Res. Lett.*, **33**, L13709.
  46. Lobell, D., **G. Bala**, P. Duffy, 2006: Biogeophysical impacts of cropland management changes on climate, *Geophys. Res. Lett.*, **33**, L06708.
  47. **Bala, G.**, K. Caldeira, A. Mirin, M. Wickett, C. Delire, 2005: Biophysical effects of CO<sub>2</sub>-fertilization on global climate, *Tellus B*, doi:10.1111/j.1600-0889.2006.00210.x
  48. Gibbard, S., K. Caldeira, **G. Bala**, T. Phillips, and M. Wickett, 2005: The effects of land cover changes on global climate, *Geophys. Res. Lett.*, **32**, doi:10.1029/2005GL024550.
  49. Gettelman, A., B. Collins, E. J. Fetzer, A. Eldering, F. W. Irion, P. Duffy, **G. Bala**, 2006: A satellite climatology of upper tropospheric relative humidity and implications for climate, *J. Climate*, **19(23)**, 6104-6121.
  50. Friedlingstein, P., P. Cox, R. Betts, V. Brovkin, I. Fung, **G. Bala**, C. Jones, M. Kawamiya, K. Lindsay, D. Mathews, T. Raddatz, P. Rayner, E. Roeckner, S. Thompson, and N. Zeng, 2005: Climate-carbon feedback analysis: Results from the C4MIP model intercomparison, *J. Climate*, **13**, 3337-3353.
  51. Oliker, L., J. Carter, M. Wehner, A. Canning, S. Ethier, **B. Govindasamy**, A. Mirin, D. Parks, 2005: Leading computational methods on scalar and vector HEC platforms, SC 2005: High performance computing, networking, and storage conference, Seattle, Washington, Nov. 12-18, 2005.
  52. **Bala, G.**, K. Caldeira, A. Mirin, M. Wickett, and C. Delire, Multi-century changes to global climate and carbon cycle model: Results from a Coupled Climate and Carbon Cycle Model 2005: *J. Climate*, **18**, 4531-4544.

53. **Govindasamy, B.**, S. Thompson, A. Mirin, M. Wickett, K. Caldeira , and C. Delire, 2005: Increase of Carbon Cycle Feedback with Climate Sensitivity: Results from a Coupled Climate and Carbon Cycle Model, *Tellus*, 57(B), 153-163.
54. Thompson, S. L., **B. Govindasamy**, A. Mirin, K. Caldeira, C. Delire, J. Milovich, M. Wickett, D. Erickson, 2004: Quantifying the Effects of CO<sub>2</sub>-fertilized vegetation on future global climate and carbon dynamics, *Geophys. Res. Lett.*, 31, L23211.
55. Iorio, J., P. Duffy, **B. Govindasamy**, and S. L. Thompson, Effects of increased resolution on the simulation of daily precipitation statistics in the US , 2004: *Climate Dynamics*, 23, 243-258.
56. Duffy, P. B., **B. Govindasamy**, J. P. Iorio, J. Milovich, K. R. Sperber, K. E. Taylor, M. F. Wehner, and S. L. Thompson, 2003: High resolution simulations of global climate, Part 1: Present Climate, *Climate Dynamics*, 21, 371-390.
57. **Govindasamy, B.**, P. B. Duffy, J. Coquard, 2003: High resolution simulations of global, Part 2: Effects of increased greenhouse gases, *Climate Dynamics*, 21, 391-404.
58. **Govindasamy, B.**, K. Caldeira, and P. B. Duffy, 2003: Geoengineering Earth's radiation balance to mitigate climate change from a quadrupling of CO<sub>2</sub>, *Global and Planetary Change*, 37, 157-168.
59. Snyder, M. A., J. L. Bell, L. C. Sloan, P. B. Duffy and **B. Govindasamy**, 2002: Climate responses to a doubling of atmospheric carbon dioxide for a climatically vulnerable region, *Geophys. Res. Lett.*, 29 (11), 10.1029/2001GL014431.
60. **Govindasamy, B.**, S. Thompson, P. B. Duffy, and K. Caldeira, 2002: Impact of geoengineering schemes on the terrestrial biosphere, *Geophys. Res. Lett.*, 29 (22), 10.1029/2002GL015911.
61. **Govindasamy, B.**, K. E. Taylor, P. B. Duffy, B. J. Santer, A. S. Grossman, and K. E. Grant, 2001: Limitations of the equivalent CO<sub>2</sub> approximation in climate change simulations, *J. Geophys. Res.* 106, 22-593-22603.
62. **B. Govindasamy**, Phil Duffy, and Ken Caldeira, 2001: Land use change and Northern Hemisphere cooling, *Geophys. Res. Lett.*, 28 , No. 2, p. 291.
63. **B. Govindasamy** and Ken Caldeira, 2000: Geoengineering earth's radiation balance to mitigate CO<sub>2</sub>-induced climate change, *Geophys. Res. Lett.*, 27 , No. 14 , p. 2141
64. **B. Govindasamy**, M.F. Wehner, C.R. Mechoso, and P.B. Duffy, 1999: The influence of a Soil-Vegetation-Atmosphere Transfer scheme on the simulated climate of LLNL/UCLA AGCM. *Global and Planetary Change*, 20, 67-86.
65. **B. Govindasamy**, and S.T. Garner, 1997: The equilibration of short baroclinic waves. *J. Atmos. Sci.*, 54, 2850-2871.
66. **G. Balasubramanian**, and S.T. Garner, 1997: The role of eddy momentum fluxes in shaping the lifecycle of a Baroclinic wave. *J. Atmos. Sci.*, 54, 510-533.
67. **G. Balasubramanian**, and M.K. Yau, 1996: The lifecycle of a simulated marine cyclone: Energetics and PV Diagnostics. *J. Atmos. Sci.*, 53, 639-563.
68. **G. Balasubramanian**, and M.K. Yau, 1995: Explosive marine cyclogenesis in a three layer model with a representation of slantwise convection: A sensitivity study. *J. Atmos. Sci.*, 52, 533-550.



69. **G. Balasubramanian**, and M.K. Yau, 1994a: Baroclinic instability in a two-layer model with parameterized slantwise convection. *J. Atmos. Sci.*, **51**, 674-701.
70. **G. Balasubramanian**, and M.K. Yau, 1994b: Effects of convection on a simulated marine cyclone. *J. Atmos. Sci.*, **51**, 2397-2417.

\* Please note that the author has used his other names B. Govindasamy and G. Balasubramanian in older publications.

#### **BOOK CHAPTER, REPORTS, EDITORIALS, COMMENTARIES:**

1. G. Bala, 2014: Can Planting new trees help to reduce global warming, Guest Editorial, Current Science, 25 June 2014.
2. **G. Bala**, 2013: Why the “hiatus” in global mean surface temperature in the last decade? Guest Editorial, Current Science, 25 October 2013.
3. **G. Bala**, 2013: Digesting 400 ppm for global mean CO<sub>2</sub> concentration, Research News, Current Science, 104(11), 1471-1472.
4. **G. Bala**, 2013: Space sunshades and climate change, Hand Book on Global Environmental Change
5. N. H. Ravindranath, **G. Bala**, Anita Sagadevan, Rajiv Chaturvedi and Indu Murthy, 2013: Historical climate trends and climate change projections for Karnataka, Supported by Global Green Growth Institute, Seoul, S Korea.
6. **G. Bala**, 2011: Counteracting climate change via solar radiation management, Commentary, Current Science, 101(11), 1418-1421.
7. **G. Bala**, A. Sagadevan, R. Gopalakrishnan and M. Jayaraman, Chapter “Climate Variability and Climate Change Projections-Karnataka region” in the report “Karnataka Climate Change Action Plan” submitted to the government of Karnataka, May 2011.
8. N. H. Ravindranath and **G. Bala**, 2011 “Forest sector and the global carbon cycle: Analysis of FAO Forest Resource Assessment and IPCC Assessments”, Submitted to Food and Agricultural Organization (FAO), Itay, Rome, 2011.
9. N.H. Ravindranath, **G. Bala**, and others, 2011: “Case study of the impacts of climate change on production and flow of forest products and its implications for the livelihoods in the Western Ghats”- NATCOM II report - submitted to the Ministry of Environment and forests.
10. N.H. Ravindranath, **G. Bala** and others, 2010: “Climate change Vulnerability assessment for NE India” submitted to KFW, Germany.
11. “Natural Ecosystems and Biodiversity” chapter in “Climate Change and India: A 4x4 Assessment, A sectoral and regional analysis for 2030s” released by MOEF on 16 November 2010 at New Delhi.
12. T.J. Phillips, **G. Bala**, P. Gleckler, D. Lobell, A. Mirin, R. Maxwell. D. Rotman, 2008: Atmospheric climate model experiments performed at multiple resolutions, LDRD project report, LLNL-TR-400220, Lawrence Livermore National Laboratory, Livermore, CA 94550, USA
13. **G. Bala**, and K. Caldeira, 2006: Mitigation of Anthropogenic climate change via a macro-engineering scheme: Climate modeling results in *Macro-Engineering: A Challenge for the Future*, edited by V. Badescu, R. B. Cathcart and R.D. Schuiling, Springer publications, 316pp.