

Dev Niyogi

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Dev Niyogi obtained his PhD in 2000 from North Carolina State University conducting research on understanding land - atmosphere interactions using multiscale observations and models. His research seeks to significantly contribute to our understanding of the Earth system particularly the urban and agricultural landscapes, and the dynamic role of coupled land surface processes on weather and regional meteorological extremes. An important ongoing and emerging focus of his research is to translate the scientific work undertaken into decision tools and portals with particular focus on hydroclimatology and sustainable climate-ready/resilient cities.

Examples of current research questions being studied in Niyogi's group include: How to represent the land surface changes and feedbacks into predictive environmental models? How to best use the myriad of new datasets to develop efficient tools for agricultural and urban regions? How to help design next generation climate resilient cities? What is a City in a complex network framework? How to help sustainable regional development with effective tools and human practices? How can we develop predictive models, decision tools, and next generation scientists and thinkers that can help manage resources and complex feedbacks in Earth system, especially under extreme conditions? How to improve the post landfall characteristics, especially rainfall characteristics of tropical cyclones over the Atlantic and Indian Ocean environments using antecedent land state? How can we use Machine Learning and other data driven approaches to improve process-scale models for land – atmosphere interactions? Thus the research questions are both fundamental and process study based as well as highly applied, and driven by issues and problems to be solved.

Dr. Niyogi currently teaches an undergraduate Weather and Climate course for applied climatology and non-meteorology majors and an advanced Land Surface Modeling graduate course at Purdue. He has also co-taught an interdisciplinary Environmental Sciences and Engineering course on Urban Complex Systems, and taught graduate courses on Atmospheric Boundary Layer, Atmospheric Turbulence, and Air Quality Modeling, and as a State Climatologist (for North Carolina and then for Indiana, until 2018) has been actively engaged in helping decision-makers work with different water, climate and resiliency related issues. A total of 11 Ph D and 16 MS students have graduated with Dr Niyogi as their advisor or coadvisor.

Dr. Niyogi has coauthored over 170 papers for peer – reviewed international journals, 17 book chapters, and over 150 conference proceedings or abstracts for professional conferences such as the AMS and AGU annual meetings. According to Google Scholar, his research has been cited over 9600 times (h-index > 50; i-index >150) and his work has been read over 26,700 times per Research Gate statistics. His work has been highlighted in various media outlets including in the popular press such as Yahoo!, MSNBC, Wired, CNN, LiveScience, National Geographic, Tedx Talk, NASA press releases, and recently for NPR following urbanization impacts on Hurricane Harvey rainfall.

Dr. Niyogi's research is funded through a variety of competitive federal grants- NSF (Atmospheric and Geosciences, Hydrology, Cyberinfrastructure, Computer Sciences, Geoscience Education, International Programs, RAPID, and CAREER), NASA (Hydrology, Interdisciplinary Sciences), Joint Center for Satellite Data Assimilation, DOE, NOAA, and USDA/NIFA. He has developed over 30 successful research projects which have led to a total award of \$100.49 millions to Purdue (\$ 5.64 millions as individual share) through grants. Since 2009, Dr. Niyogi received Purdue 'Seeds for Success' award, Million Dollar research award, and the University Faculty Scholar recognition, the NSF's CAREER award, the USDA NIFA Partnership Award, and has been part of the 2018 Governor's Award for Environmental Excellence- amongst other.

Dr. Niyogi is the chair of the American Meteorological Society (AMS) Board of Urban Environment and the elected advisory board member of the International Association of Urban Climate. He has been a member of the AMS Committees on Agriculture and Forest Meteorology, AMS Committee on Applied Climatology, invited member FGDC Spatial Climate Working Group, Member of the Weather Research and Forecast (WRF) model WG-14 (land surface models), and Member of the AGU Biogeochemistry meetings group / spring meeting student awards chair. He has provided invited testimonies to National Academy study group, planning summer meetings, and Senate Working groups. He also has a robust international network of research projects with currently active collaborators, joint students, or funded projects in India, China, Germany, Ireland, Zimbabwe, Luxembourg, and France.

He is currently serving as an Editorial Board member for the journal Urban Climate, and Helios published by Elsevier and for a the journal Remote Sensing, and has been a Review Editor for Climate Research, an Associate Editor for Water Resources Research and the AMS Journal of Applied Climatology and Meteorology. He has also been a Guest Editor of five special issues on Land use Land Cover impacts on weather and climate for International Journal of Climatology (twice), Boundary-Layer Meteorology, Global Planetary Changes, Remote Sensing, and a Volume Editor for Elsevier, Major Reference Work on Climate Vulnerability (Agriculture) published in 2013.