TRISHA GOPALAKRISHNA
School of Geography and the Environment, University of Oxford
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***Career Interests**:* climate change mitigation, biodiversity conservation, ecosystem services mapping and prioritization, tropical ecology, landscape ecology, conservation planning and management, geospatial analysis and remote sensing, statistical analysis

EDUCATION

University of Oxford, School of Geography and the Environment
DPhil Geography and Environment, Oct 2019- present
Advisor: Yadvinder Malhi
Proposed Dissertation*: Prioritization of restoration of tropical forests based on optimization of ecosystem services- climate change mitigation, water provision and biodiversity value*

Duke University, Nicholas School of the Environment
MASTER OF ENVIRONMENTAL MANAGEMENT, May 2016
Certificate in Geospatial Analysis
Advisor: John R. Poulsen and Dean Urban
Thesis*: Constituents and drivers of composition, diversity and structure of a Congolese forest*
Concentration: Ecosystem Science & Conservation

Rashtriya Vidyalaya College of Engineering
BACHELOR OF ENGINEERING, July 2013, (GPA: 4.0/4.0)
Thesis: *A computer aid to assist Selco Foundation employees to determine solar powered irrigation requirements of small scale farmers in Dakshin Kannada district, Karnataka*
Major: Mechanical Engineering

PROFESSIONAL EXPERIENCE

Carbon Science, Global Climate Change Program, The Nature Conservancy, Arlington, VA, **USA,** Applied Scientist I
Worked on quantifying the potential of forest systems to mitigate climate change globally and key priority countries such as the United States and India. This involves two main workstreams- climate change mitigation potential of reforestation work and improved forest management activities (specifically Reduced Impact Logging for Carbon). Additionally, I led all geospatial, remote sensing and statistical analysis for all team projects. Lastly, I maintained and updated library of GIS products to inform data selection, data quality control and checks and data assessment from multiple sources for use in all team projects. Dec 2016- May 2019

Center for Sustainability Science, The Nature Conservancy, Arlington, VA, **USA**, Science Intern
Led multivariate statistical analysis for a project related to knowledge diffusion within and beyond the organization. Also, led satellite remote sensing analysis to estimate remotely sensed indices for biomass in the grasslands of Peru. June - Dec 2016

Geospatial Analysis for Conservation & Management, **Duke University**, **Durham, NC, USA** Graduate Teaching Assistant
Requires proficiency in ArcGIS and a suite of analytical platforms such as Maxent, MARXAN, Portfolio as applied to ecological applications including habitat corridor mapping and site prioritization. Graduate level class- John Fay, Spring 2016

Fundamentals of Geographic Information Systems, **Duke University, Durham, NC, USA**, Graduate Teaching Assistant
Requires proficiency in ArcGIS and the fundamental concepts and theory of geographic information systems as applied to ecological application including an introduction to satellite remote sensing and analysis. Assisted students in learning ArcGIS including facilitation of projects. Also, graded assignments regularly and provided comments/suggestions for improvement. Graduate level class-Dr. Patrick Halpin, Fall 2015

Nilgiri Natural History Society, Kotagiri, Ooty, TN, India, Conservation Education Coordinator
Initiated the first biodiversity based quizzing competition, which resulted in a participation of approximately 30 urban middle school children. Developed content and conducted field classes on local flora and fauna in 3 immediate rural government schools. January-March 2014

RESEARCH EXPERIENCE

Center for Biodiversity Conservation, American Museum of Natural History, New York City, NY, USA, Junior Research Analyst
Part of the junior research team that is conducting a detailed literature review for the USAID funded project assessing the status of evidence in stakeholder engagement for biodiversity conservation goals. Requires critical analysis, appraisal and review of literature ranging across a wide spectrum of regions of the world, conservation goals, cultures and community-based initiatives. February - April 2016

Duke University Program in Tropical Ecology (Gabon), Duke University, **Durham, NC, USA**, Visiting Researcher
Conducted independent research and fieldwork to assess the effects of specialized plant enemies on the seed-to-seedling stage of plant recruitment. Authored grants for the project, led a team of Gabonese field guides and technicians in project set up and data collection. May- August 2015

National Geographic Big Cats Initiative, **Duke University**, **Durham, NC, USA**, Research Intern
Conducted habitat suitability modeling for cheetahs (*Acinonyx jubatus)* of Namibia including current and future threat mapping. February – April 2015

Keystone Foundation, **Kotagiti, Ooty, TN, India,** Research Intern
Collected ecological monitoring data from 9 village sites consisting of 4 indigenous communities followed by preliminary analysis using MS Excel. Documented historical traditional ecological knowledge of the indigenous tribes and facilitated community discussions regarding surrounding biodiversity changes, causes and impacts. Implemented scientific outreach tools in the form of basic map making, visual chart representations, seasonal changes and calendars to improve awareness of analysis results. January- April 2014

Selco Foundation, Ujjire, Dakshin Kannada, Karnataka, India, Needs Assessment Analyst
Spearheaded a needs assessment of a local social venture focusing on energy consumption and requirements. Developed a needs assessment toolkit as part of the Invention Education program to be used by middle school children belonging to low income and government rural schools in the area. October- December 2013

Center for Wildlife Studies, **Bangalore, Karnataka, India**, Field Technician
Conducted 350 semi structured socio-economic interviews of coffee, rubber and areca plantations. Being a part of the core field research team, collected data as part of the amphibian sampling

phase in 21 plantations, which involved general frog identification, call recording and covariate measurements. July- September 2013

PUBLICATIONS

-2019-

Cook-Patton, S., **Gopalakrishna, T.**, Amarjangal, O., Attribution of reforestation opportunity in the United States (*in prep*)

Ramesh, V., SP Vijaykumar, **Gopalakrishna, T.** & Shanker, K. Identifying cryptic lineages within an endemic frog genus (Indirana) in the Western Ghats. (*submitted*)

Putz, F. E., Baker, T., Griscom, B. W., **Gopalakrishna, T.,** Roopsind, A., Umunay, P. M., ... & Ellis, P. W. (2019). *Intact forest in selective logging landscapes in the tropics. Frontiers in Forests and Global Change, 2, 30.*

Ellis, P. W., **Gopalakrishna, T.,** Goodman, R. C., Putz, F. E., Roopsind, A., Umunay, P. M., ... & Griscom, B. W. (2019). *Reduced-impact logging for climate change mitigation (RIL-C) can halve selective logging emissions from tropical forests. Forest ecology and management, 438, 255-266.*

Goodman, R. C., Aramburu, M. H., **Gopalakrishna, T.**, Putz, F. E., Gutiérrez, N., Alvarez, J. L. M., ... & Ellis, P. W. (2019). *Carbon emissions and potential emissions reductions from low-intensity selective logging in southwestern Amazonia. Forest Ecology and Management, 439, 18-27.*

Umunay, P. M., Gregoire, T. G., **Gopalakrishna, T.,** Ellis, P. W., & Putz, F. E. (2019). Selective logging emissions and potential emission reductions from reduced-impact logging in the Congo Basin. *Forest Ecology and Management*, *437*, 360-371.

-2018-

Fargione, J. E., Bassett, S., Boucher, T., Bridgham, S. D., Conant, R. T., Cook-Patton, S. C., Ellis, P., Falcucci, A., Fourqurean, J.W., **Gopalakrishna, T.,** ... & Griscom, B.W. (2018). Natural climate solutions for the United States. *Science advances*, *4*(11), eaat1869.

Fisher, J. R., Montambault, J., Burford, K. P., **Gopalakrishna, T.**, Masuda, Y. J., Reddy, S. M., ... & Salcedo, A. I. (2018). Knowledge diffusion within a large conservation organization and beyond. *PloS one*, *13*(3), e0193716.

-2017-

Griscom, B. W., Adams, J., Ellis, P. W., Houghton, R. A., Lomax, G., Miteva, D. A., Schlesinger, W.H., Shoch, D., Siikamäki, J.V., Smith, P., Woodbury, P., Zganjar, C., Blackman, A., Campari, J., Conant, R.T., Delgado, C., Elias, P., **Gopalakrishna, T.,**... & Fargione, J. (2017). Natural climate solutions. *Proceedings of the National Academy of Sciences*, *114*(44), 11645-11650.

Ramesh, V., **Gopalakrishna, T.**, Barve, S., & Melnick, D. J. (2017). Finer spatial resolution improves accuracy of species distribution models in heterogeneous landscapes-A response to Praveen J. *Biological Conservation*, *213*, 247-248.

Ramesh, V., **Gopalakrishna, T.**, Barve, S., & Melnick, D. J. (2017). IUCN greatly underestimates threat levels of endemic birds in the Western Ghats. *Biological Conservation*, *210*, 205-221

INVITED PRESENTATIONS

Gopalakrishna, T. August 2018. *Reforestation Mitigation Potential in the United States of America.* Ecological Society of America 2018, New Orleans, Louisiana

Gopalakrishna, T. April 2016. *Constituents and drivers of composition, diversity and structure of a Congolese forest.* Nicholas School of the Environment Master's Project Symposium 2016, Duke University

Gopalakrishna, T. November 2015. *Tropical forest ecosystems: Treasure trove for research and conservation efforts.* Joint Ecology-Marine Symposium 2015, Duke University

Gopalakrishna, T. October 2015. *Do plants have enemies? Their effects on plant recruitment in an Afrotropical forest system*. Poster presentation. Student Conference on Conservation Science, American Museum of Natural History, New York

PROFESSIONAL ACTIVITIES

Roles, Responsibilities, and Service

Society for Conservation GIS, Washington DC Chapter -Member, 2016-2019

Duke University
Duke Conservation Society- President, 2015-2016
Nicholas School Student Council- Communications Representative, 2014-2015

Rashtriya Vidyalaya College of Engineering
RV QuizCorp (quizzing society)- President, 2011-2013

ADDITIONAL SKILLS

Languages: Native English and Kannada speaker, proficient in Hindi, basic French

Technical Skills: R for statistics (including multivariate statistics and classification algorithms that include Random Forest and Boosted Regression Trees), R for geospatial analysis (raster, rgdal, rgeos, sp), ArcGIS products, QGIS, ENVI (for remote sensing analysis including variety of vegetation indices), Google Earth Engine (basic scripting in Java), Maxent, MARXAN, Fragstats, Portfolio, Python, MS Office products

REFERENCES

Peter Ellis
Forest Carbon Scientist
Carbon Science, Global Lands
The Nature Conservancy
4245 Fairfax Drive #100
Arlington, VA 22205
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Dr. Susan Cook-Patton
Forest Restoration Scientist
Carbon Science, Global Climate Change Program
The Nature Conservancy
4245 Fairfax Drive #100

Arlington, VA 22205
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Dr. Dean Urban
Professor of Landscape Ecology
Nicholas School of the Environment
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Durham NC 27708
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