**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*: Reforestation in India: Opportunity and Reality*

**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

## TEACHING EXPERIENCE

**Biodiversity and Change Management, MSc Course, University of Oxford, Oxford, Oxfordshire, UK** Teaching Assistant
Ran discussion and reading groups for a wide range of biodiversity related topics complementary to the syllabus. Conducted two Professional Research Skills Sessions- Conferences, the what, why and how? and #onlinepresence- How to build a digital presence for your career. Assisted graduate students in developing their dissertation projects and provided general guidance. Graduate level class- Dr. Chloe Montez Strevens, Michaelmas and Hilary 2020-2021

**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

## PUBLICATIONS

1. Ramesh, V., Vijayakumar, S. P., **Gopalakrishna, T.**, Jayarajan, A., & Shanker, K. (2020). *Determining levels of cryptic diversity within the endemic frog genera, Indirana and Walkerana, of the Western Ghats, India*. PloS one, 15(9), e0237431.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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

***Manuscripts in preparation, review, revision and/or in press***
1. Cook-Patton, S., Gopalakrishna, T.* ... & Fargione, J. E. *Spatial action maps to restore forest cover and mitigate climate change in the contigous United States* (in review) *- shared first authorship

**PRESENTATIONS & POSTERS**

**Gopalakrishna, T.** July 2020. *Is India's dominant vegetation savannah? Reforesting India for climate change mitigation without compromising its savannahs.* NbS Digital Dialogues 2020, University of Oxford

**Gopalakrishna, T.** November 2018. *Climate change mitigation opportunities in forest systems of India.* The Nature Conservancy Global Science Gathering 2018, Houston, Texas

**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**

British Ecological Society- Member, 2020- current
Association for Tropical Biology and Conservation- Member, 2020- current
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

**1. Dr. Yadvinder Malhi**
Professor of Ecosystem Science
School of Geography and the Environment
University of Oxford
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**1. Dr. Susan Cook-Patton**
Forest Restoration Scientist
Global Strategies Carbon Science
The Nature Conservancy
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**2. Dr. Dean Urban**
Professor of Landscape Ecology
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