

**Rosa C Goodman, Ph.D.**  
**Associate professor | Universitetslektor**  
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## Mission statement

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My mission is to harness the power of markets and support of global goals and agendas—i.e., restore 350 million hectares, limit climate change to 1.5°C, meet the Sustainable Development Goals by 2030, and transition to a bio-economy—to find solutions that work from the bottom up. Specifically, I work with the integrated forest-industry-market approach to enable transformative changes and bring all the potential of the forest sector to life. We harness the power of the market (promoting wood building for future urban growth) and industry (supporting forest small-holders and small- and medium-sized sawmill enterprises and entrepreneurs) to drive large scale forest restoration and equitable value generation for forests and forest resources along the entire supply chain.

## Education

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- 2009–2013     **Ph.D. – Geography (Physical)**, University of Leeds, Leeds, UK  
*Dissertation:* Tropical tree and palm allometry and implications for forest carbon dynamics in southwestern Amazonia (Timothy Baker & Oliver Phillips, advisors)
- 2006–2009     **M.Sc. – Forest Science**, Purdue University, West Lafayette, Indiana, USA  
*Thesis:* Nitrogen fertilization of intensively managed black walnut plantations in west-central Spain (Douglass Jacobs, advisor; GPA 4.0/4.0)
- 2002–2006     **B.Sc. – Forestry and Natural Resources**, Purdue University, West Lafayette, USA  
Highest Distinction, Honors Program in Agriculture; GPA 4.0/4.0

## Employment

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- 2021–Present     **Senior Lecturer:** Swedish University of Agricultural Sciences (SLU), Department of Forest Ecology and Management, Umeå, Sweden
- 2017–2021     **Associate Senior Lecturer:** Swedish University of Agricultural Sciences (SLU), Department of Forest Ecology and Management, Umeå, Sweden
- 2019–Present  
2017     **SLU Global Coordinator for the Faculty of Forest Sciences (20%)**  
**Postdoctoral Researcher:** Swedish University of Agricultural Sciences (SLU), Department of Forest Ecology and Management, Umeå, Sweden – Balancing production and ecosystem services from degraded tropical rain forests to aid the transition to a more sustainable bio-based economy
- 2016–2017     **Consultant:** Wageningen University & Guyana Forestry Commission – Developing allometric equations for aboveground biomass using terrestrial LiDAR
- 2014–2016     **Postdoctoral Associate & Project Coordinator:** Yale School of Forestry and Environmental Studies, New Haven, CT & The Nature Conservancy, Washington, DC – Science for Nature and People (SNAP) Working Group: Forest sharing or sparing for conservation and communities in tropical timber landscapes?
- 2014     **Consultant:** World Wildlife Fund – Case study to quantify reductions in greenhouse gas emissions in Madre de Dios in areas practicing reduced impact logging techniques
- 2013–2014     **Consultant:** Center for International Forest Research (CIFOR) – Global Comparative Study on REDD+: Modules (2) REDD+ projects sites and (3) Monitoring and reference levels

- 2012      **Consultant:** World Wildlife Fund – REDD Readiness in Madre de Dios, Peru  
 2011      **Visiting Researcher:** Dr. Sassan Saatchi, Jet Propulsion Laboratory, NASA.  
 Pasadena, CA, USA – LiDAR and remote sensing  
 2009      **Research Associate:** Purdue University, Department of Forestry and Natural  
 Resources, West Lafayette, IN USA  
 2003–2006      **Research Assistant:** Dr. Douglass Jacobs's forest regeneration laboratory, Purdue  
 University, West Lafayette, IN USA

### Research grants (Total > 11 million SEK)

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- Formas Early-career researchers (PI), 4M SEK, 2021-2024  
*Toward a future of wood cities and restored forests - modelling pathways for development of a new forest industry in the Global South*  
 Vetenskapsrådet Utvecklingsforskning (PI), 4.5M SEK, 2020–2023  
*How good is Good Wood? Can a novel timber industry concept save tropical forests?*  
 Science for Nature and People (co-applicant), US\$250,000, 2014–2016  
*Forest sharing or sparing for conservation and communities in tropical timber landscapes?*  
 World Wildlife Fund–Peru (applicant): US\$10,000, 2011  
 Royal Geographical Society, Geographical Fieldwork Grant (applicant): GB£500, 2011  
 Anglo-Peruvian Society (applicant), GB£500, 2011  
 The Tambopata Reserve Society (applicant), GB£300, 2011  
 National Science Foundation, International Research Experience (applicant): US\$15,000,  
 2006–2008

### Publications

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#### Peer-reviewed articles

- [21] Loubota Panzou, GJ‡, et al. 2021. Pantropical variability in tree crown allometry. *Global Ecology and Biogeography* 30 (2): 459-475. ‡**Student author**
- [20] Lau A‡, Calders K, Bartholomeus H, Martius C, Raumonon P, Herold M, Vicari M, Sukhdeo H, Singh J, **Goodman RC**. 2019. Tree Biomass Equations from Terrestrial LiDAR: A Case Study in Guyana. *Forests* 10 (6), 527
- [19] de Souza FC‡, et al. 2019. Evolutionary diversity is associated with wood productivity in Amazonian forests. *Nature Ecology and Evolution*, 1-8
- [18] Jackson T‡, Shenkin A, Moore J, Bunce A, Van Emmerik T, Kane B, Burcham D, James K, Selker J, Calders K, Origo N, Disney M, Burt A, Wilkes P, Raumonon P, Gonzalez de Tanago Menaca J, Lau A, Herold M, **Goodman RC**, Fourcaud T, Malhi Y. 2019. An architectural understanding of natural sway frequencies in trees. *J. Royal Society Interface* 16 (155).
- [17] **Goodman RC**, Harman Aramburu M‡, Gopalakrishna T, Putz FE, Gutiérrez N, Mena Alvarez JL, Aguilar-Amuchastegui N, Ellis PW. 2019. Carbon emissions and potential emissions reductions from low-intensity selective logging in southwestern Amazonia. *Forest Ecology and Management* 439: 18-27.
- [16] Ellis PW, Gopalakrishna T, **Goodman RC**, Roopsind A, Griscom BW, Umunay PM, Zalman J, Ellis E, Mo K, Gregoire TG, Putz FE. 2019. Climate-effective reduced-impact logging (RIL-C) can halve selective logging emissions from tropical forests. *Forest Ecology and Management* 438: 255-266,
- [15] Fauset S, Gloor M, Fyllas N, Phillips OL, Asner GP, Baker TR, Bentley L, Brienen R, Christoffersen B, del Aguilar-Pasquel J, Doughty C, Feldpausch TR, Galbraith D, **Goodman RC**, et al. 2019. Individual-based modelling of Amazon forests suggests that climate controls productivity while traits control demography. *Frontiers in Earth Science* 7: 83

- [14] Griscom BW\*, **Goodman RC\***, Burivalova Z\*, Putz FE. 2018. Carbon and biodiversity impacts of intensive versus extensive tropical forestry. *Conservation Letters*. 11(1): e12362. **\*Equal contributions**
- [13] Gonzalez de Tanago J‡, Lau A‡, Bartholomeus H, Herold M, Avitabile V, Raumonon P, Martius C, **Goodman RC**, Disney M, Manuri S, Burt A, Calders K. 2018. Estimation of above-ground biomass of large tropical trees with Terrestrial LiDAR. *Methods in Ecology and Evolution* 9(2): 223-234.
- [12] Ploton P‡, Barbier B, Momo S, Chuyong G, Dauby G, Droissart V, Fayolle A, **Goodman RC**, et al. 2016. Closing a gap in tropical forest biomass estimation: Accounting for crown mass variation in pantropical allometries. *Biogeosciences* 13, 1571-1585.
- [11] Griscom BW, **Goodman RC**. 2015. Reframing the sharing vs sparing debate for tropical forestry landscapes. *J. Tropical Forest Science* 27(2): 145-147.
- [10] Chave J, Réjou-Méchain M, Búrquez M, Chidumayo E, Colgan MS, Delitti WBC, Duque A, Eid T, Fearnside PM, **Goodman RC**, et al. 2014. Improved allometric models to estimate the aboveground biomass of tropical trees. *Global Change Biology* 20: 3177-3190.
- [9] **Goodman RC**, Phillips OL, Baker TR. 2014. The importance of crown dimensions to improve tropical tree biomass estimates. *Ecological Applications* 24(4): 680–698.
- [8] **Goodman RC**, Oliet JA, Sloan JL, Jacobs DF. 2014. Nitrogen fertilization of intensively managed black walnut (*Juglans nigra* L.) during plantation establishment: Physiology of production. *European J. Forest Research* 133: 153-164.
- [7] **Goodman RC**, Phillips OL, Baker TR. 2013. Amazon palm biomass and allometry. *Forest Ecology and Management* 310: 994-1004.
- [6] **Goodman RC**, Oliet JA, Pardillo G, Jacobs DF. 2013. Nitrogen fertilization of black walnut (*Juglans nigra* L.) during plantation establishment: Morphology and production efficiency. *Forest Science* 59(4): 453-463.
- [5] **Goodman RC**, Phillips OL, Baker TR. 2012. Tropical forests: Tightening up on tree carbon estimates. *Nature* 491(7425): 527-527.
- [4] Jacobs DF, **Goodman RC**, Gardiner ES, Salifu KF, Overton RP, Hernandez G. 2012. Nursery stock quality as an indicator of bottomland hardwood forest restoration success in the Lower Mississippi River Alluvial Valley. *Scandinavian J. Forest Research* 27(3): 255-269.
- [3] **Goodman RC**, Jacobs DF, Apostol KG, Wilson BC, Gardiner ES. 2009. Winter variation in physiological status of cold stored and freshly lifted semi-evergreen *Quercus nigra* seedlings. *Annals of Forest Science* 66: 103-110.
- [2] Jacobs DF, Davis AS, Wilson BC, Dumroese RK, **Goodman RC**, Salifu KF. 2008. Short-day treatment alters Douglas-fir seedling dehardening and transplant root proliferation at varying rhizosphere temperatures. *Canadian J. Forest Research* 38: 1526-1535.
- [1] **Goodman RC**, Jacobs DF, Karrfalt RP. 2005. Evaluating desiccation sensitivity of *Quercus rubra* acorns using X-ray image analysis. *Canadian J. Forest Research* 35: 2823–2831.

#### Book chapter

- [1] Tittler R, Messier C, **Goodman RC**. 2016. Triad forest management: Local fix or global solution? In Larocque GR (ed.) *Ecological Forest Management Handbook*. Taylor & Francis Group/CRC Press, Boca Raton.

#### Commissioned working paper

- [1] **Goodman RC**, Herold M. 2014. Why Maintaining Tropical Forests is Essential and Urgent for a Stable Climate. CGD Working Paper 385. Washington, DC: Center for Global Development 56 p. **\*Media coverage:** [Blog 1](#), [Blog 2](#)

### Popular science and mixed-media outreach

- [4] “Drips of hope for Brazilian forests”, [SLU's Global Blog](#), 7 October, 2019
- [3] **Goodman RC**. Webinar: [WWF Forests and Climate webinar](#). 30 Oct 2019
- [2] **Goodman RC**. Webinar: Developing Allometric Equations for REDD+ MRV. [WWF Forest and Climate Programme's online REDD+ Learning Sessions](#). 28 May 2014.
- [1] Jacobs DF, **Goodman RC**, Weeks SS. 2009. Stewart's Woods Dendrology Tree Trail Podcast. [FNR Extension Publication](#). FNR-407

### Open-source database

- [1] **Goodman RC**, Phillips OL, Baker T R. 2013. Data from: The importance of crown dimensions to improve tropical tree biomass estimates. Dryad Digital Repository. <http://dx.doi.org/10.5061/dryad.p281g>

### Consultancy reports

- [6] **Goodman RC**. 2014. Global Comparative Study on REDD+: Module 2 and 3 – Madre de Dios field campaign. Results: Tree volume and impact of selective logging in Brazil nut concessions of Madre de Dios, Peru. Report prepared for CIFOR. 22 p.
- [5] Harman M, **Goodman RC**. 2014. Cuantificación de la reducción de emisiones de gases de efecto invernadero al implementar prácticas de aprovechamiento de impacto reducido versus prácticas tradicionales de aprovechamiento en la provincia de Tahuamanu, Región Madre De Dios. Report prepared for World Wildlife Fund. 30 p.
- [4] **Goodman RC**, Baker TR, Phillips OL. 2012. Consultancy to establish the technical guidelines to complete a carbon baseline and design a measurement and monitoring system for carbon stocks in the region of Madre de Dios, Peru. Reports prepared for WWF. 97 p.
- [3] **Goodman RC**, Burney OT, Jacobs DF. 2009 Annual Monitoring Report Seedling Plantings For the Habitat Conservation Plan For the Six Points Road Interchange and Associated Development. Report prepared for Indianapolis Airport Authority. 88 p.
- [2] **Goodman RC**, Jacobs DF. 2007. An Analysis of Growth and Yield in Black Walnut Plantations Managed by ArborAmerica, Inc. Report prepared for ArborAmerica, Inc. 22 p.
- [1] **Goodman RC**. Physiographic, socio-economic, and forestry issues in Tanzania and the Kigoma Region. 2006. Report prepared for Maximum Yield Associates.

### Project development documents

- [2] **Goodman RC**, Ellis PW. 2015. Science for Nature and People (SNAP) Working Group: Forest sharing or sparing for conservation and communities in tropical timber landscapes–Yucatan Peninsula Case Study. Project Development Document. 31 p.
- [1] **Goodman RC**. 2015. SNAP Working Group: Forest sharing or sparing for conservation and communities in tropical timber landscapes. Project Development Document. 43 p.

### Teaching and facilitation

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- 2019–Present **Course coordinator and lecturer**: SG0219: Sustainable Forest Management and Land Use in the Tropics, Department of Forest Ecology and Management, SLU
- 2018–Present **Guest Lecturer** at Department of Forest Ecology and Management, SLU
- 2016 **Facilitator**, International Society of Tropical Foresters annual meeting, Yale University, 28–30 Jan 2016
- 2015 **Guest Lecturer**: School of Forestry and Environmental Studies, Yale University F&ES 752: Ecology & Conservation of Tropical Forests: “Forest Management as a Conservation Tool”
- 2009–2012 **Teaching Assistant**: School of Geography, University of Leeds GEOG1220: Geography, Environment and Society

- GEOG1300: Geography Tutorials  
 GEOG2230: Social Data Analysis  
 GEOG2250: Environmental Systems Analysis  
 GEOG3030: Tropical Rain Forests: Past, Present and Future  
 GEOG3600: Dissertation Design
- 2011 **Guest Professor:** Continuing education course “Gestión Ambiental REDD y Monitoreo, Reporte y Verificación (MRV)” given by Universidad Nacional Amazonia Madre de Dios (UNAMAD) and World Wildlife Fund (WWF). Puerto Maldonado, Madre de Dios, Peru
- 2004–2008 **Teaching Assistant:** Dept. Forestry and Natural Resources, Purdue University  
 FNR 225: Dendrology and Wildland Plants  
 FNR 353: Natural Resources Measurements

### Graduate student supervision

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- 2021–2024 **Co-supervisor:** Scolastica Justin Ntalikwa (PhD), Sokoine University of Agriculture, Morogoro (SUA), Tanzania  
 Thesis: Wood product and processing systems development, within an integrated approach: A case study of Tanzania
- 2021–2024 **Co-supervisor:** Osvaldo Mineses (PhD), SUA/ SLU  
 Thesis: The role of forest fire in GHG emission, a reflection on the challenges for REDD+ implementation in Mozambique
- 2021–2024 **Co-supervisor:** Americo Manjate (PhD), SUA/ SLU  
 Thesis: Analysis of REDD+'s potentiality for promoting efficiency in forest exploration by reducing forest waste in native forests
- 2021 **Main supervisor:** Roberto Stelstra (MSc), SLU  
 Thesis: Native tree species in mixed plantations in Rwanda
- 2020 – 2021 **Co-supervisor:** Tiago Brandao de Jesus (main supervisor: dr. Prof. Marielos Pena Claros; Wageningen UR): October 2020 – May 2021
- 2018–2019 **Co-supervisor:** Joel Jensen (MSc), Dept. Forest Ecology and Management, SLU  
 Thesis: Above- and belowground carbon stocks and tree diversity in restored and unrestored secondary tropical lowland dipterocarp rainforest in Sabah, Borneo
- 2016–2018 **Thesis technical advisor:** Alvaro Ivan Lau Sarmiento (PhD), Wageningen University & Research (WUR), Wageningen, The Netherlands  
 Thesis: Assessing biomass and architecture of tropical trees with terrestrial laser scanning
- 2014–2015 **Thesis mentor:** Matias Harman Aramburu (Forest engineering), Universidad Nacional Agraria La Molina, Lima, Peru  
 Thesis: Cuantificación de la reducción de emisiones de gases de efecto invernadero al implementar prácticas de aprovechamiento de impacto reducido versus prácticas de aprovechamiento convencional en la provincia de Tahuamanu

### Professional service

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- 2019–Present **Faculty of Forest Sciences International Committee**, SLU, Umeå
- 2019–Present **DevRes2020 conference steering committee:** Umeå University/ SLU
- 2018–2019 **Project Group:** Development of a new Master’s program in Forest Ecology and Sustainable Management, Dept. Forest Ecology and Management
- 2013 **MRV Expert on Forest Inventories:** “REDD+ Measuring, Reporting and Verification – Science solutions to policy challenges”, WWF, The Netherlands

## Workshops organized

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Stakeholder workshop, field trip, and internal working group meeting for SNAP working group:

Forest sharing or sparing for conservation and communities in tropical timber landscapes – Yucatan Peninsula case study, Bacalar, Quintana Roo, Mexico. 25-30 Oct. 2015.

SNAP working group meeting: Forest sharing or sparing for conservation and communities in tropical timber landscapes. National Center for Ecological Analysis and Synthesis (NCEAS), Santa Barbara, CA 19-23 Feb. 2015.

## Professional certifications and postdoctoral training

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Courses in Pedagogy, Unit for Educational Development, SLU

- Anti-racist pedagogy in higher education (2 days), 2020
- Teaching active e-learning (3 days), 2020
- Education for Critical thinking and Criticalilty (2 weeks), 2020
- Education for Sustainable Development (2 days), 2020
- Doctoral supervision (3 weeks), 2019
- Teaching in Higher Education, basic course (3 weeks), 2018
- Grading and Assessment (3 days), 2019

Greenhouse Gas Verifier training, NSF International, Ann Arbor, MI, USA, 20–22 Aug. 2018

Project Design, Evaluation, and Monitoring, Project Management for Development, 2016

Facilitation, Yale School of Forestry and Environmental Studies & The Forest Dialogue, 2016

Methods of Capacity Building, Yale School of Forestry and Environmental Studies, 2015

Science Communications with Joe Palca (NPR science correspondent), Yale University, 2015

Spatio-temporal analysis and big data processing using free and open source software, Spatial Ecology, 2015

Visiting researcher, National Center for Ecological Analysis and Synthesis (NCEAS), 2015

Network of Conservation Educators and Practitioners (NCEP) Teaching and Learning Studio, American Museum of Natural History, 2015

Introduction to Marxan, Intermediate Marxan, & Marxan for Managers: PacMARA, 2015

Women in Science at Yale (WISAY) mentor and mentee, 2014-2016

## Other qualifications

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Certified life coach, The Life Coach School, 2020-2021

Yoga teacher certification (500 hour), SriMa International School of Transformational Yoga, 2018

## Languages, software, and applicable skills

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**Languages:** **English** (native language), **Spanish** (proficient – written and spoken), **Swedish** (basic, in progress)

Statistical analysis software: R statistical platform, Statistical Analysis Software® (SAS)

Standard software: Microsoft Office® Word, Excel, and Powerpoint, EndNote®

## Hobbies and interests

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Rock & ice climbing, cycling, hiking, running, camping, gardening, yoga, meditation, coaching, potlucks, dancing