

# BENJAMIN DUBE

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## EDUCATION

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### University of Vermont

Jan 2022

PhD in Natural Resources,

Rubenstein School of Environment and Natural Resources

Economics for the Anthropocene Fellow, Gund Institute for Environment

Dissertation: *Embracing Uncertainty, Ambiguity, And Complexity In Agriculture, Science, And Policy*

### Green Mountain College

Sept 2010 –May 2012

BA in Sustainable Agriculture

Summa Cum Laude, College Honors

### University of Vermont

Sept 2006 –Dec 2008

Major in Sociology

No Degree, Honors College

## RESEARCH INTERESTS

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Ecological Economics, Agroecology, Ecosystem Services

## PUBLICATIONS

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### Peer Reviewed Journal Articles

- **Dube, B & Erickson, JD (2023)** Probabilistic Simulation of Phosphorus Loss Using the Vermont P-Index: A Bottom-Up Field to Watershed Approach. *Renewable Agriculture and Food Systems*. In Press.
- **Dube, B (2021)** Why Cross and Mix Disciplines and Methodologies?: Multiple Meanings of Interdisciplinarity and Pluralism in EE. *Ecological Economics*. 179. doi.org/10.1016/j.ecolecon.2020.106827
- **Mulder KP & Dube B (2014)** Long-Term Ecological Assessment of Farming Systems (LEAFS): Comparing Human, Animal and Small Machine Power for Fresh-Market Horticulture. *Agroecology and Sustainable Food Systems*. 38:6 doi.org/10.1080/21683565.2014.884034
- **Dube B & Mulder KP (2014)** Energetic Analysis of Draft Animal Hay Harvest: An Alternative Look at Cellulosic Biomass. *Outlook on Agriculture*. 43:4 doi.org/10.5367/oa.2014.0181

### Book Chapters

- **Dube, B (2020)** Assessing Ecological Economics at 30: Results from a Survey of ISEE members. in Costanza, Erickson, Farley and Kubiskewski (eds). *Sustainable Wellbeing Futures: A Research Agenda for Ecological Economics*. Edward Elgar, Cheltenham, U.K., pp. 427-444.
- **Brevik K, Adams J, Dube B, Barbieri L & Yahya Haage G. (2020)** Well-being in the More-Than-Human World. in Costanza, Erickson, Farley and Kubiskewski (eds). *Sustainable Wellbeing Futures: A Research Agenda for Ecological Economics*. Edward Elgar, Cheltenham, U.K., pp. 156-166.

## Technical Reports

- **Dube B, White A, Ricketts T & Darby H (2022)** Economic Valuation of Ecosystem Services from Improved Soil Health in Vermont. Report to Vermont Payment for Ecosystem Services and Soil Health Working Group.
- **Ament J, Dube B, Gingrich C, & Svartzman, R (2017)** Stranded Assets Futures: An Inquiry into the Hydrocarbon Asset Bubble.
- **Mulder KP, Dube B, Brown L & Ackerman-Leist P (2013)** Passive Solar Root-Zone Heat for High Tunnel Production: Two-year Results Summary.

## TEACHING EXPERIENCE

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### Courses Taught:

- Instructor: Prescott College. "The Economics of Sustainable Organizations and Communities" (Master's Level) Fall 2019 –Summer 2021
- Instructor: Green Mountain College. Sustainable Community Development Economics. (Master's Level) Summer 2017, Spring 2017, 2018, 2019
- Co-instructor: University of Vermont. "Principles of Community Development Economics." Summer 2021
- Co-instructor: University of Vermont. "Agroecology, Farmer Livelihoods and Ecosystem Restoration: Field Course in Santa Catarina, Brazil." Spring 2017

### Academic Committees & Advising:

- Masters Thesis Advisor: Steven Woods Sail Freight Revival: Methods Of Calculating Fleet, Labor, And Cargo Needs For Supplying Cities By Sail. *Masters of Sustainable and Resilient Communities*. Prescott College. May, 2021

### Graduate Teaching Assistantships:

University of Vermont

- NR 141: Introduction to Ecological Economics Fall 2017
- ENVS 002: International Environmental Studies Spring 2016, Spring 2019
- NR 206: Environmental Problem Solving and Impact Assessment Fall 2015
- ENVS 001 Introduction to Environmental Studies Fall 2019
- NR 002 Natural History and Human Ecology Spring 2020

## ORAL PRESENTATIONS AND INVITED TALKS

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- **Dube, B:** Order Beyond Discipline and Methodology? Contrasting Intellectual Goals of Transdisciplinary Ecological Economics *Biennial Meeting of the Candadian Society for Ecological Economics, May 25 2019, Waterloo, Ontario*
- **Dube, B** How is Alternative Ecological Agriculture Defined and Why Does it Matter? *RSENR Graduate Student Research Symposium, October, 12 2018, Burlington, Vermont*
- **Dube, B** Introduction to Ecological Economics: Energy *Biennial Meeting of the Candadian Society for Ecological Economics, October 18th 2017, Montreal, Canada*
- **Dube, B** Agro-ecology as Adaptive Management: Is a Bottom-Up Paradigm for Eco-Friendly Agriculture Feasible? *Biennial Meeting of the Candadian Society for Ecological Economics, October 19 2017, Montreal, Canada*

- **Dube B, Bliss S, Middleman M, Clithero G, Karas A, Farley J & Schmitt A** Agroecology and the Global Environmental Crisis: Lessons from Santa Catarina, Brazil *Biennial Meeting of the United States Society for Ecological Economics June 26 2017, St. Paul, Minnesota.*
- **Dube B, Schmitt A, Fantini A & Farley J** Forest Restoration, Farmer Livelihoods, and Environmental Regularization: A PAR Approach to Ecosystem Services in the Atlantic Rainforest, Southern Brazil. *Biennial Meeting of the International Society for Ecological Economics. June 27 2016 Washington, DC.*
- **Perkins P, Svartzman R, Ament J, Dube B & Luzadis V** Building Practical, Interdisciplinary Ecological Economics Pedagogy. *Biennial Meeting of the International Society for Ecological Economics. June 28 2016 Washington, DC.*
- **Dube B & Mulder, KP** Farming without Oil: Land, Labor and Energy Demands of Alternative Farm Systems. *Biennial Meeting of the United States Society for Ecological Economics. June 10, 2013, Burlington, Vermont.*
- **Thomas R, Dube B, & Brehl B** Draft Animals at Educational Institutions. *Northeast Animal Power Field Days. September 28 2013, Barton, Vermont*
- **Mulder KP & Dube B** Growing Vegetables without Fossil Fuels: Humans, Animals and Systems. *MOSES Organic Farming Conference, February 23 2013, La Crosse, Wisconsin.*

## OCCUPATIONAL EXPERIENCE:

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### **Anew Climate, LLC**

*Agri-Carbon Analyst*

June 2022–Present

*Remote*

- Led farm data QA/QC for an agricultural carbon project enrolling >320,000 acres. Built software tools for partial QA/QC automation for farm management & spatial data.
- Led statistical design and power analysis for agricultural carbon projects.
- Built data-science workflows for assessing similarity between treated project fields and un-treated control plots.
- Used publicly available bio-geochemical models to scope potential Carbon benefits of agricultural practice changes.

### **University of Vermont**

*Field Research Leader*

Mar 2022–May 2022

*Burlington, VT*

- Prepared a report for the State of Vermont valuing ecosystem services from improved soil health.
- Built custom analysis software linking various agriculture-environment models including USLE, the NRCS curve number, DayCent and components of SWAT.

### **Middleton Place Foundation/Charleston Carriage Works**

*Tour Guide*

Feb 2014–May 2015

*Charleston, SC*

- Distilled complex history into fun educational talks; delivered over 1000 public lectures.

### **Green Mountain College**

*Farm Research and Production Assistant*

Jan 2012–Dec 2013

*Poultney, VT*

- Led data collection, management and analysis for Long-Term Ecological Assessment of Low-Energy Farming systems research project.
- Assisted with data transcription and analysis for high tunnel root-zone heating project.
- Participated in management and education of a team of up to 13 students and employees during summer farm semesters.

- Served as interim farm co-manager during farm managers 7 week family leave during the growing season.
- Performed farm management tasks including pasture management and grazing planning, oxen driving and coordinating the vegetable production plan, and many others.

**Green Mountain College –Cerridwen Farm**

Oct 2010 –Dec 2011

*Farm Hand & Undergrad Research Asst*

*Poultney, VT*

- Assisted with many tasks on the farm including pasture management/grazing planning and oxen driving, as well as farm research analysis.

**Bloomfield Farm**

June 2010 –Aug 2010

*Farm Apprentice*

*Charlotte, VT*

**Windy Corners Farm**

Apr 2009 –Aug 2010

*Farm Apprentice*

*Charlotte, VT*

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## TECHNICAL SKILLS

- Python (advanced)
- R (basic/intermediate)
- GIS (Arc and open-source)
- Git (basic)
- Bash (basic)
- MS Office Suite
- Editing & writing for clarity & brevity
- Public oral presentation

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## ET. CETERA

### Other Certificates:

- Holistic Management Planned Grazing Certification: Holistic Management International
- Permaculture Design Certificate: Lost Valley Ecological Education Center

### Open-source software tools

- Flood Control Demand (Python): A tool for quantifying the relative amount of flood risk downstream from each location in a watershed. [Link](#)
- Geographic Surface Area (Python): A tool for calculating by-cell surface area of land from a digital elevation model.  
[Link](#)

### Hobby Data Projects

- UVM COVID Dashboard, Fall 2020 - Spring 2021. A simple data visualization which was the only active COVID case dashboard for the University of Vermont at the time.
- Map of Burlington re-appraisal. A fast mapping exercise helping my neighbors and community understand the impacts of the city-wide tax re-appraisal. The local newspaper made a much more professional data visualization, 2 weeks later; I was first on the scene with a usable tool. I appeared on local access television discussing it.

### Non-Academic Service:

- Land Use Committee: Rock Point Episcopal Center, Burlington VT (2019-2021)

- Garden Educator and Coordinator: The Homeward Bound Collective, Burlington VT (2018-2022)

**Musical Compositions:**

SoundCloud Link