

## CELINA SCOTT-BUECHLER

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### ACADEMIC APPOINTMENTS

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Accenture Assistant Professor of Public Policy, 2025 –  
Duke University Sanford School of Public Policy

### RESEARCH

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**Interests:** Climate policy, carbon dioxide removal, climate and environmental justice, just transition.

**Methods:** Qualitative: focus groups, interviews, expert elicitation, process tracing, legal analysis.

Quantitative: (multi-)national surveys, natural language processing, regression, participatory geospatial modeling.

### EDUCATION

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Ph.D. Environment & Resources, Stanford Doerr School of Sustainability 2025

Dissertation: Greenhouse Gas Removal as Just Transition? Social Equity and Public Engagement for Emerging Climate Solutions

Committee: Bruce Cain, Political Science (co-advisor); Rob Jackson, Earth Systems Science (co-advisor); Michelle Anderson, Law; Nicole Ardoin, Environmental Social & Behavioral Sciences; Khalid Osman, Civil & Environmental Engineering

Awards: Knight-Hennessy Scholarship, RAISE (Research, Action, Impact through Strategic Engagement) Fellowship, Stanford Community Impact Award

J.D. Stanford Law School 2025

M.S. Atmospheric Science, Cornell University 2021

B.A. College Scholars Honors: Environmental Science and Policy (*summa cum laude*), 2018  
Cornell University

### PEER-REVIEWED PUBLICATIONS

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**Scott-Buechler, C.** & Wang, K.\* (2025). Navigating uncertainty: Direct air capture and just transition perspectives in Gulf Coast communities. *Environmental Research Letters*.

\*undergraduate co-author

- Policy coverage: [Carbon180 newsletter highlight](#)

Nawaz, S., McLaren, D., Caggiano, H., Hudson, A. D., & **Scott-Buechler, C.** (2024). Carbon removal for a just transition. *Climate Policy*, 1-12.

**Scott-Buechler, C.** & Jinnah, S. (2024). Early Stakeholder Engagement is Necessary in Advance of Atmospheric Methane Removal Field Trials. *Environmental Research Letters*.

**Scott-Buechler, C.**, Osman, K., Ardoin, N., Fraser, C., Adcox, G., Cain, B., ... & Jackson, R. (2024). Communities conditionally support deployment of direct air capture for carbon dioxide removal in the United States. *Nature Communications Earth and Environment*, 5(175).

Nawaz, S., **Scott-Buechler, C.**, & Caggiano, H. (2024). An independent public engagement body is needed to responsibly scale carbon removal in the US. *Environmental Research Letters*, 19(1), 011002.

Low, S., Boettcher, M., Asayama, S., Baum, C., Borth, A., Brown, C., Clingerman, F., Dauvergne, P., De Pryck, K., Gupta, A., Honegger, M., Lenzi, D., Reitsma, R., Schenuit, F., **Scott-Buechler, C.**, Valenzuela, J.M. (2024). An earth system governance research agenda for carbon removal. *Earth System Governance*, 19, 100204. (Authors listed in alphabetical order following two lead authors.)

Greene, C. H., & **Scott-Buechler, C.** (2022). Algal solutions: Transforming marine aquaculture from the bottom up for a sustainable future. *Plos Biology*, 20(10).

Greene, C. H., **Scott-Buechler, C.**, Hausner, A. L., Johnson, Z. I., Lei, X. G., & Huntley, M. E. (2022). Transforming the Future of Marine Aquaculture. *Oceanography*, 35(2).

Mollica, N.R., Cohen, A.L., Alpert, A.E., Barkley, H.C., Brainard, R.E., Carilli, J.E., DeCarlo, T.M., Drenkard, E.J., Lohmann, P., Mangubhai, S., Pietro, K.R., Rivera, H.E., Rotjan, R.D., **Scott-Buechler, C.**, Solow, A.R., Young, C.W. (2019). Skeletal records of bleaching reveal different thermal thresholds of Pacific coral reef assemblages. *Coral Reefs*, 38(4).

## PEER-REVIEWED BOOK CHAPTERS

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**Scott-Buechler, C.**, & Greene, C. H. (2019). Role of the ocean in climate stabilization. In *Bioenergy with Carbon Capture and Storage: Using Natural Resources for Sustainable Development* (pp. 109-130). Pires, J.C.M. & da Cunha Goncalves, A.L., eds. Elsevier.

## SUBMITTED MANUSCRIPTS

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**Scott-Buechler, C.** Policy innovation is necessary to support land-based carbon dioxide removal. (*Submitted, Global Change Biology*).

**Scott-Buechler, C.** Removing carbon, restoring trust: public perceptions of industry and community roles in U.S. carbon dioxide removal policy. (*In review, Climatic Change*).

## MANUSCRIPTS IN PREPARATION

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**Scott-Buechler, C.** & Bhatia, P.\* Land-based carbon removal strategies at scale threaten to exacerbate global inequality. (*Target Journal: Nature Sustainability*).

\*undergraduate co-author

**Scott-Buechler, C.** Justice-rightsized carbon dioxide removal pathways for the U.S. requires more stringent decarbonization. (*Target Journal: Nature Climate Change*).

**Scott-Buechler, C.**, Cotsman, A.,\* Asensio, O., Nava, L., & Reiner, D. Mapping perceptions of carbon dioxide removal: A global analysis of organizational sentiments across time, sector, and geography. (*Target Journal: PNAS*). [Part of EU-funded consortium, Quantifying and Deploying Responsible Negative Emissions.]

\*undergraduate co-author

**Scott-Buechler, C.**, Jackson, R. & Reiner, D. A unified framework for greenhouse gas removal and principles for its governance. (*Target Journal: One Earth*).

**Scott-Buechler, C., & Reiner, D.** Support for methane removal linked to knowledge, risk, and governance. (*Target Journal: Nature Communications*). [Part of EU-funded consortium, Quantifying and Deploying Responsible Negative Emissions.]

**Scott-Buechler, C. & Greene, C.H.** Net-negative nutrition for the world of 10 billion: Potential contributions from marine microalgae. (*Target Journal: Nature Food*).

**Scott-Buechler, C., Clark, B., Wong-Parodi, G.** Regional networks enable community-forward just transitions. (*Target Journal: Energy Policy*).

**Scott-Buechler, C., Ardoin, N., Barga, J.,\* & Osman, K.** Beyond technological solutions: social dimensions of integrated climate mitigation approaches in diverse communities. (*Target Journal: Nature Energy*).

\*undergraduate co-author

**Scott-Buechler.** Who Governs Net-Zero? Corporate Emissions Insets, Offsets, and Removals. (*Target: law review*).

**Scott-Buechler.** Sharing the Load: Frameworks for Equitable Climate Infrastructure Siting. (*Target: law review*).

## CONFERENCES

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### Session Organizer

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|---|------|
| Research and Policy for Just Transitions  | 2024 |
| Democracy and Environmental Sustainability Conference, Stanford Graduate School of Business |      |
| Methane Abatement & Removal Session (co-chair)  | 2023 |
| American Geophysical Union (AGU) Annual Conference  |      |

### Presenter

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|---|------|
| Whose Backyard Matters? Place Attachment, Procedural Power, and the Distribution of Climate Mitigation Infrastructure | 2026 |
| Where Do We Grow from Here? Global Environmental Justice Conference   |      |
| Whose Backyard Matters? Place Attachment, Procedural Power, and the Distribution of Climate Mitigation Infrastructure | 2026 |
| American Association of Geographers (AAG) Annual Conference   |      |
| The State of the Science and Social Science on mCDR (invited)   | 2025 |
| Navigating Marine Carbon Dioxide Removal: From Science to Regulation  |      |
| Community-Led Just Transitions Amid Shifting Federal Priorities (invited)   | 2025 |
| American Association of Geographers (AAG) Annual Conference, JEDI Session   |      |
| Tradeoffs in Scaling Renewable Energy and Carbon Removal (invited)  | 2025 |
| Eccles Family Rural West Conference   |      |
| Social Science Perspectives on Methane Removal (invited)  | 2025 |
| Methane Removal Summit & Workshop   |      |
| Emerging Applications of Generative AI in Sustainability Reporting  | 2024 |
| Association for Public Policy Analysis & Management (APPAM) Annual Conference   |      |
| Community Perceptions of Carbon Dioxide Removal & Carbon Capture Projects (invited)                                   | 2024 |
| Stanford University Carbon Capture Summit   |      |

Fair-Share Climate Infrastructure Adoption is Necessary for Climate Justice (invited) Democracy and Environmental Sustainability Conference, Stanford Graduate School of Business	2024
Early Lessons from Community-Engaged Direct Air Capture (invited) Earth Systems Governance Conference	2024
Just Transitions in Fossil Fuel Communities via Emerging Climate Infrastructure Industries Association for Environmental Studies and Sciences (AESS) Annual Conference	2024
Just Transitions in Fossil Fuel Communities via Emerging Climate Infrastructure Industries Harvard Climate Pipeline Political Science Workshop	2024
Meaningful Community Involvement for Climate Infrastructure (invited) American University Institute for Carbon Removal Law & Policy Symposium	2023
European Stakeholder Engagement in CDR: NLP Sentiment & Topic Analysis International Conference on Negative Emissions Technologies	2022
Federal Opportunities for Direct Air Capture (invited) VERGE22: The Climate Tech Conference	2022
Marine Microalgae Viability Across Geophysical & Sociopolitical Axes (invited) Algae Biomass Association Annual Summit	2021
Geospatial Modeling of Marine Microalgae Viability for Sustainable Nutrition Ocean Visions Summit	2021
Communicating Science to Policymakers (invited) American Geophysical Union (AGU) Science Policy Workshop	2020
Federal & State Environmental Justice Legislation (invited) Community Engagement, Environmental Justice & Health Conference	2020
US Policymaking for Environmental Justice (invited) Environmental Justice & Health Disparities Symposium	2020
Role of US Foreign Policy in Global Environmental Peacebuilding First International Conference of Environmental Peacebuilding	2019
Communicating Negative Emissions Strategies to Lay Audiences International Conference on Negative CO <sub>2</sub> Emissions	2018
Constraining Thermal Thresholds using Paleo-Bleaching Proxy (poster) Ocean Sciences Meeting	2018
<b>Discussant</b>	
Urban Governance and Policy Responses to Environmental Challenges in Cities Association for Public Policy Analysis & Management (APPAM) Annual Conference	2024

## SERVICE

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### University Service

Sanford MPP Admissions Committee	2026 cycle
Sanford Committee for Inclusive Academic Excellence	2026 – 2027
Sanford Climate Education Representative (Duke Climate Commitment)	2025 – 2026
Stanford Doerr School of Sustainability Diversity, Equity, & Inclusion (DEI) Liaison	2024 – 2025
Decolonizing Academia - Knight Hennessy group	2023 – 2024

Graduate Student Advisory Committee, Stanford Doerr School of Sustainability	2022 – 2023
Emmett Interdisciplinary Program in Env. & Resources Seminar Coordinator	2022 – 2023

### Journal Peer Reviewer

Climate Policy (2)
Policy Studies Journal (1)
Environmental Research Letters (3)
Environmental Research Communications (1)
Nature Communications Earth & Environment (2)
National Sea Grant Law Journal (1)

<b>Guest Editor</b> , Environmental Research Letters Focus on Methane Drawdown	2022 – 2024
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### Board Member

Center for Environmental Peacebuilding	2020 – 2022
Telluride Association	2016 – 2021

### Invited Expert Reviewer

US Federal Policy Opportunities for Ocean CDR, Energy Futures Initiative	2020
Accelerating Underexplored Solutions to the Climate Crisis, Energy Futures Initiative	2021

## GRANTS, SCHOLARSHIPS & FELLOWSHIPS

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### Grants – Principal Investigator

<a href="#">SCALES</a> Postdoctoral Fellows Research Award (~\$600,000)	2026
Bass Discretionary Funds (\$100,000)	2026
ClimateWorks Foundation Research Grant (\$50,000)	2026
Duke Bass Connections (\$20,900)	2026
Spark Climate Research Grant (\$102,432)	2025
ClimateWorks Foundation Research Grant (\$169,000)	2025

### Grants – Lead Investigator

ClimateWorks Foundation Research Grant (\$100,000) [Data for Progress]	2024
Research, Action, Impact through Strategic Engagement Research Grant (\$9,000)	2024
Emmett Interdisciplinary Program in Environment & Resources Research Grant (\$4,000)	2024
National Wildlife Federation Research Grant (\$62,000) [Data for Progress]	2024
Stanford Doerr School of Sustainability Research Grant (\$2,500)	2024
Emmett Interdisciplinary Program in Env. & Resources Collaboration Grant (~\$40,000)	2024
Chan Zuckerberg Initiative Research Grant (\$80,000)	2023
ClimateWorks Foundation Research Grant (\$176,000) [Data for Progress]	2023
Emmett Interdisciplinary Program in Environment & Resources Research Grant (\$4,000)	2023
McGee-Levorson Grant (\$2,300)	2023
Breakthrough Energy Research Grant (\$73,300) [Data for Progress]	2022
ClimateWorks Foundation Research Grant (\$98,000) [Data for Progress]	2022
Carbon180 Research Grant (\$197,000) [Data for Progress]	2022
Emmett Interdisciplinary Program in Env. & Resources Collaboration Grant (~\$40,000)	2022
Ocean Visions Early Career Research Grant (\$5,000)	2021
Ocean Visions Research Grant (\$20,000)	2020
Atkinson Biodiversity Fund Grant (\$8,000)	2019

## Scholarships & Fellowships

Research, Action, Impact through Strategic Engagement Doctoral Fellowship (~\$50,000)	2024
Stanford Knight-Hennessy Scholarship (~\$500,000) ~1% acceptance rate	2021 – 2024
John Knauss Policy Fellowship for climate & ocean policy (\$75,000)	2020 – 2021
Gates Cambridge Scholarship ( <i>offered, but declined</i> ) (~\$180,000) ~1% acceptance rate	2020
Cornell Presidential Graduate Research Fellowship (~\$100,000)	2018 – 2019
University of New Hampshire Sustainability Fellowship (\$12,000)	2019
Harry S. Truman Scholarship for civic leadership (~\$40,000)	2017
Udall Scholarship for environmental leadership (\$7,000)	2017
NOAA Ernest F. Hollings Scholarship (\$19,000)	2017
Hunter R. Rawlings Presidential Research Scholarship (\$5,000)	2016
Cornell Lynch Scholars Ocean Research Fellowship (\$7,500)	2016

## TEACHING & MENTORSHIP

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### Primary Instructor

PUBPOL 590: Climate Policy	Fall 2025
Sanford School of Public Policy, Duke University	
PUBPOL 804: Policy Analysis II	Spring 2026
Sanford School of Public Policy, Duke University	

### Master's Project (MP), Honors Thesis (HT), and Independent Study (IS) Supervisor

Spring 2026: Abena (Sekum) Appiah-Ofori (IS), Grace Ryan (IS)	
Sanford School of Public Policy, Duke University	
Fall 2025: Abena (Sekum) Appiah-Ofori (MP), Irene Esquivel Herмосilla (MP), Dylan Cawley (HT)	
Sanford School of Public Policy, Duke University	

### Trainee

Inclusion, Diversity, Equity, Access in Learning Environments (IDEAL) Pedagogy	Summer 2024
Stanford University	

### Guest Lecturer

Climate Change Law	Spring 2026
Law course, Prof. Jonathan Wiener, Duke University Law School	
Environmental Ethics	Fall 2024
Undergrad. course, Prof. Ann C Thresher, Northeastern University	
Carbon Dioxide and Methane Removal	Fall 2023, Fall 2024
Grad. course, Profs. Chris Field & Rob Jackson, Stanford University	
Carbon Removal, Capture, and Use	Fall 2022, Spring 2024
Mixed grad. & undergrad. course, Prof. Wil Burns, Northwestern University	
Will Technology Save the World? Techno-Optimism & Ethics	Spring 2024
Undergrad. course (fulfills ethics requirement), Prof. Rob Jackson, Stanford University	
Social, Ethical & Governance Considerations for Greenhouse Gas Removal	Summer 2023
Grad. course (Climate & Society M.A. program), Romany Webb, Columbia University	
Geodynamics Seminar	Winter 2022
Grad. course, Prof. Scott Lindell, MIT/Woods Hole Oceanographic Institution	

## **Graduate Student Instructor**

Control of Nature Undergrad. course (fulfills ethics requirement), Prof. Rob Jackson, Stanford University	Spring 2022
Cornell Satellite Remote Sensing Training Program Grad. course, Prof. Bruce Monger, Cornell University	Summer 2019
Cornell Ocean Research Apprenticeship for Lynch Scholars (research instructor) Undergrad. field semester, Profs. Drew Harvell & Chuck Greene, Cornell University	Spring 2019
Dynamics of Marine Ecosystems in a Changing Ocean Undergrad. course, Prof. Chuck Greene, Cornell University	Fall 2018

## **Research Advisor**

Climate Scholars Program (Naflah Mohammed) Nicholas School of the Environment, Duke University	2025 – 2026
Bill Lane Center for the American West (7 undergraduates) Stanford University	Fall 2021 – present
Mentoring Undergraduates in Interdisciplinary Research (2 undergraduates) Stanford Doerr School of Sustainability	Summers 2022 & 2024
Summer Undergraduate Program in Energy Research (1 undergraduate) Stanford School of Earth	Summer 2022
Sustainability Undergrad. Research in Geoscience & Engineering (1 undergraduate) Stanford University (DEI initiative for underrepresented students in STEM)	Summer 2022
Department of Earth & Atmospheric Sciences (2 undergraduates, 2 master's) Cornell University	2018 – 2021

## **POLICY**

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Infrastructure Grant Reviewer, U.S. Department of Energy Major accomplishment(s): Oversaw over \$1 billion in climate funding	2023 – 2025
Senior Fellow for Climate Innovation, Data for Progress Major accomplishment(s): Developed white papers; briefed fed. agency officials on climate policy	2020 – 2025
Co-Chair, Marine Circular Economy Taskforce, Ocean Visions Major accomplishment(s): Facilitated creation of roadmap for algae-based carbon dioxide removal	2020 – 2025
Legislative Fellow (Climate & Environmental Justice), U.S. Senator Cory Booker Major accomplishment(s): Co-wrote Environmental Justice Legacy Pollution Cleanup Act; Lead pipe environmental justice provisions included in the Inflation Reduction Act (\$15 billion)	2020 – 2021
Policy Fellow, CarbonPlan	2020
Consultant, UN Environment Programme	2019 – 2020
Deputy Director & Policy Director, Center for Environmental Peacebuilding	2019 – 2020
Climate Policy Advisory Network, 2020 Presidential Campaign	2019 – 2020

## SELECTED POLICY SPEAKING ENGAGEMENTS

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### Invited Speaker

Career Pathways in Public Policy University of Massachusetts, Amherst Public Policy Student Association	2025
Navigating Marine Carbon Dioxide Removal: From Science to Regulation Sabin Center for Climate Change Law, Columbia Law School (NYC Climate Week Event)	2025
Getting Atmospheric Carbon Removal Right for People and Communities Australia Net Zero Futures Forum, Climate Recovery Institute	2025
Mapping Just Carbon Removal National Wildlife Federation Webinar Series	2024
Engaging Publics for Equitable Climate Solutions The Institute for Science & Policy	2024
Agenda for a Progressive Political Economy of Carbon Removal American University Institute for Responsible Carbon Removal	2024
Charting a Path for Just Direct Air Capture Hubs American University Institute for Responsible Carbon Removal	2022
Carbon Dioxide Removal (CDR) & Carbon Capture and Storage (CCS) in California California Air Resources Board Environmental Justice Advisory Council	2022
Environmental Justice (EJ) & Carbon Dioxide Removal OpenAir Collective: This is CDR	2022
Climate Solution Series: Direct Air Capture Foundation for Climate Restoration Webinar	2022
Environmental Justice & Climate Justice Telluride Association Summer Program	2020
<b>Invited Podcast Guest</b>	
Community Insights on Equitable CDR Deployment Carbon Curve Podcast	2022
What Polling Says About CDR Nori Carbon Removal Newsroom Podcast	2022