

GYAMI SHRESTHA, Ph.D.

Northern Virginia/Washington, D.C. Area, USA

<https://www.linkedin.com/in/gyami>

<https://carboneers.org/about>

[Google Scholar](#)

PROFESSIONAL EXPERIENCE (2011 to Present)

- Founder, CEO and Principal Consultant, carboneers.org by Carboneers LLC, Virginia (Current role)
- National Program Leader, U.S. Department of Agriculture/USDA NIFA, Washington, D.C.
- Program Director, Lynker Corporation, Virginia
- Director, (interagency) U.S. Carbon Cycle Science Program Office under USGCRP /White House auspices via UCAR/NOAA, Washington, D.C.

EARLY CAREER EXPERIENCE

- Expert Consultant (Merit Review Panel Manager), American Association for the Advancement of Science (AAAS), Washington, D.C.
- Graduate Researcher, Teaching Fellow and Research Fellow, University of California Merced (UC Merced)
- Christine Mirzayan Science and Technology Policy Fellow, U.S. National Academies of Sciences, Engineering and Medicine, Washington, D.C.
- Research Assistant, University of Wyoming, Laramie
- Program Officer, Center for Rural Technology Nepal (CRT/N), Kathmandu, Nepal
- Research Assistant, International Center for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

EDUCATION (DEGREES AND CERTIFICATES)

- Senior Executive Service Development Program Certificate, Asian Americans in Government Executives' Network (AAGEN).
- Sustainability Executive Leadership Certificate. Harvard University.
- Nonprofit Management Executive Certificate. Georgetown University.
- University of California Merced. PhD in Environmental Systems with Atmospheric Aerosols and Health Certificate. Dissertation: Black Carbon, Biochar and Prescribed Forest Fires in Yosemite National Park.
- University of Wyoming. MS in Soil Science & Water Resources with Restoration Ecology Certificate. Thesis: Land Management Effects on Soil Carbon.
- Kathmandu University. B.Sc. (Hons) Environmental Sciences/Natural Resources Management. Thesis: Rainwater Harvesting Appropriate Technology.
- Microsoft Program Management Fundamentals Certificate.
- PMP Exam Prep Certification. (ongoing)
- ESG Disclosures and Compliance Certificate. LinkedIn.
- Monitoring Grants and Cooperative Agreements. PDU 14 CPE, 16 CLP, 16 PMI credits. Management Concepts Institute.
- Cooperative Agreements and Substantial Involvement (CFR 200 etc.). CLP 8, CEU 0.6, PDUs 7 Credits. Management Concepts Institute.
- Machine Learning in Weather & Climate. 40 hrs. European Centre for Medium-Range Weather Forecasts (ECMWF).

PROFESSIONAL SERVICE AND LEADERSHIP (Invited/Volunteer/Assigned)

- Editor, American Meteorological Society (AMS) Weather, Climate and Society (WCAS) Journal, 2023-Present
- AAAS Executive Science and Technology Policy Fellows Selection Committee, 2020-2022, 2025-Present
- American Geophysical Union (AGU) Ambassador Awards Selection Committee 2022-2025
- Grant/Merit Reviewer/Panelist (NASEM, NASA, DOE, NSF, USDA, NOAA SBIR, NFWP, Activate, Schmidt etc.), 2012-Present
- 2025 AMS Annual Meeting Overall Planning Committee Member, 2024-2025
- World Climate Research Program (WCRP) Safe Landing Groups member for (i) Perturbed Carbon Cycle (ii) Climate Interventions, 2022-2024
- Chair, North American Carbon Program (NACP) GHG Removal/Carbon Dioxide Removal (CDR) Work Group, 2024-Present
- 5th National Climate Assessment Author, White House OSTP/USGCRP, 2021-2023
- NACP/US Carbon Cycle Science Program Workshop and CDR Academy: Measuring, Monitoring, Reporting, and Verification (MMRV) for Carbon Dioxide Removal. Planning Committee and co-lead, 2022-2023
- International CO₂ Conference (ICDC-11) Quadrennial Conference Program Steering Committee, 2021-2022
- Global Carbon Project Steering Committee, 2011-2022
- Technical Advisor Panel, Bipartisan Policy Center's Farm and Forest Carbon Solutions Task Force, 2021
- Community Climate Interventions Strategy Steering Committee, 2020-2024
- 2020 Civilian Awards Judging Committee for Federal Asian Pacific American Council (FAPAC)
- 2nd State of the Carbon Cycle Report (SOCCR2) and associated digital products, Author & Lead Project Director, USGCRP/White House OSTP, 2015-2019
- 2017, 2018, 2019 Earth Science Women's Network (ESWN) AGU Panels on Opportunities Beyond Academia
- Board of Directors, Nepalese Children's Education Fund (NCEF) 2011-2013 and Founding Member, Women in STEM, UC Merced, 2008

SELECTED PROFESSIONAL PUBLICATIONS AND PRODUCTS (Lead, co-Lead or Contributor)

1. We need a solid scientific basis for nature-based climate solutions. Proceedings of the National Academy of Sciences. 2024.
2. Report for the CDR: Towards a Unified MMRV Framework Workshop. North American Carbon Program. 2023.
3. Ecosystems, ecosystem services, and biodiversity. 5th National Climate Assessment. USGCRP. 2023.
4. America's Marine Sanctuary System Benefits Americans and the Planet. Real Clear Science. 2023.
5. What Is the big picture in carbon removal research? Issues in Science and Technology. National Academy of Sciences. 2022.
6. The science needed for robust, scalable, and credible nature-based climate solutions in the United States: Full Report. 2022.
8. Developing a framework for an interdisciplinary international climate intervention strategies research program. Bulletin of AMS. 2021.
9. Wetland Carbon in the United States. In Wetland Carbon and Environmental Management. AGU Book. 2021.

10. Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report. US Global Change Research Program. 878 pp. 2018.
11. Improving carbon cycle projections for better carbon management, *Eos*, 97. 2016.
12. Simulating the earth system response to negative emissions. *Environmental Research Letters* 11. 2016.
13. Biophysical and economic limits to negative CO₂ emissions. *Nature Climate Change*. 2016.
14. Integrating carbon cycle research into decision-making processes, *Eos*, 96, doi:10.1029/2015EO037893.2015. 2015.
15. Black carbon's properties and role in the environment: A comprehensive review. *Sustainability* 2, (1), 294-320. 2010.
16. Prescribed fires in California: black carbon effect. 2009. In 1st North American Biochar Conference Proceedings, Boulder. 2009.
17. Prescribed fires: air quality dilemma for San Joaquin Valley. White paper for San Joaquin Valley Air Pollution Control District-Fresno, California. 2008.
18. Carbon accumulation and storage in semi-arid sagebrush steppe: Effects of long-term grazing exclusion. *Agriculture, Ecosystems & Environment*. 2007.
19. Influence of reclamation management practices on soil bulk density and infiltration rates on surface coalmine lands in Wyoming, National American Society of Mining and Reclamation Symposium Report. 2005.

SELECTED PUBLIC ENGAGEMENT PRODUCTS AND GUEST PRESENTATIONS (Excluding interagency community workshops that I oversaw.)

- From Policy to Field: Rethinking AI for the Future of Agriculture. 2026. Annual AI In Agriculture Summit. NC State University. **(Invited Keynote)**
- Mineral-Based Carbon Management and Removal Technologies: Emerging Research, Demonstrations, Measurement Verification. AGU. 2025. **(Co-Chair)**
- Connecting Science and MRV Development for Cross-Pathway Carbon Dioxide Removal (CDR) Technologies. AGU. 2024. **(Co-Chair)**
- USDA NIFA's Data Science and AI Program for Food and Agricultural Systems Research, Education, Extension Grants Solicitation Webinar. 2024. **(Lead)**
- Toward Real and Achievable Carbon Drawdown: Advances in MMRV Policy and Techniques for Nature-Based Climate Solutions, Climate-Smart Commodities, and CDR. AGU. 2024. **(Co-Chair)**
- Leveraging Direct Flux Measurements Beyond Academia: Real-World Applications. ICOS Science Conference 2024. **(Co-Chair)**
- The Coming Revolution in Monitoring Greenhouse Gases. SatSummit. 2024. **(Moderator)**
- Could Nepal become a Leader in Carbon Removal? National Land our Future Youth Conference Nepal. 2023. **(Invited Speaker)**
- 3rd CDR Law Conference. Institute of Carbon Removal Law and Policy. American University. 2023. **(Moderator)**
- US-Canada Carbon Dioxide Removal Public Forum Design Workshop. 2023. ASU Consortium. **(Invited Speaker)**
- Sea Grant Knauss Fellows Career Panel. 2023. **(Invited Panelist)**
- NASEM GHG Emissions from Wildland Fires: Toward Improved Monitoring, Modeling and Management Workshop. 2023. **(Invited Breakout Moderator)**
- National Science Foundation NCAR Earth System Science and Technology Hubs (NESTs) Workshop. 2023. **(Invited Speaker)**
- Science-based Gigaton Carbon Removal: Strategies, MRV across Terrestrial, Atmospheric, Oceanic and Societal Dimensions. AGU. 2023. **(Chair)**
- CDR for Climate Interventions: Broadening Land to Earth System Interactions Science. National Academies of Sciences Climate Interventions Workshop to inform the National Science Foundation. 2023. **(Invited Speaker)**
- Science Coordination and MRV: CDR Information Systems for Blue Carbon. NOAA Sea Grant UGA Blue Carbon Symposium. **(Invited Speaker)**
- From Carbon Budgets to Carbon Dioxide Removal: 23+ Years of Federally Funded Science Coordination Efforts AGU Annual Meeting 2022. **(Talk)**
- Science-based Carbon Removal Strategies, Monitoring, Measurements, Reporting and Verification across Terrestrial, Atmospheric, Oceanic and Societal Dimensions. AGU Annual Meeting 2022. **(Session Chair)**
- A Multi-Agency Perspective on Carbon Dioxide Removal Research: Mobilizing the U.S. Research Community and Government Actions Based on Science. AGU 2022. **(Town Hall Co-Chair and Speaker)**
- US Carbon Program and NACP CDR Academy. 2022 **(Co-lead and co-Moderator)**.
- Equity and Justice in Coastal Planning and Decisions. 2022-2023. NOAA Ocean Podcast Series. Episodes 60 and 62. NOAA National Ocean Service. **(Co-lead, Interviewee and Interviewer)**
- Carbon Removal and Monitoring, Measurement, Reporting and Verification (MMRV). 2022 NASA Carbon Monitoring System (CMS) Science Team Meeting and Applications Workshop. **(Invited Talk/Panelist)**
- Advancing the Science of CDR to Inform Decisions and Actions: An Interagency Research Coordination Strategy. AGU Annual Meeting. Dec 2021. **(Talk)**
- Conceptualizing US Interagency Carbon Information, Monitoring, and Decisions' Strategy. 2021 AGU Meeting Town Hall. **(Chair and Speaker)**
- Scientific Needs and Historical Programmatic Visions for an Interagency Carbon Monitoring System. NASA CMS Meeting. 2021 **(Invited panelist)**
- Programa Mexicano de Carbona. Reunión temática NACP-PMC: Where we are, where we want to go. 2021. **(Invited talk)**
- A Strategic Vision to Advance Climate Change Science: Interagency Carbon Example. Syngenta Devcon 2021. **(Invited Talk)**
- 2020 AmeriFlux Meeting. Past to Future: A Vision for Diverse and Inclusive Carbon Cycle Science Collaborations. **(Invited Keynote)**
- NASEM Ocean Carbon Dioxide Removal Committee. 'Ocean Carbon Dioxide Removal: Some Interagency Perspectives'. Oct 2020 **(Invited talk)**
- Forging Linkages in Carbon Cycle Science (Joint AGU session with EU Integrated Observations Systems) December 2019 **(Lead Organizer)**
- Assessment of Carbon in North America: Science Informing Decisions in a Circular Economy. 2018 USDA-DOE Summit on Realizing the Circular Carbon Economy: Charting a Course for Innovations in Agriculture and Energy. **(Invited talk)**
- US National Academy of Sciences Anthropogenic Methane Panel. 2017. **(Invited Panelist)**.

Featured Interviews: (1) [Another major U.S. climate report dropped. But you probably missed it.](#) (2) [Tracing the path of carbon in North America.](#)

LEADERSHIP AWARDS AND GRANTS (LEAD) (SELECTED) (interagency cooperative grant awards received not shown)

- Supervisor awarded Individual USDA Time Award for 'building bridges and influencing priorities for emerging issues'
- University Corporation for Atmospheric Research (UCAR) Special Recognition Award for Extraordinary Work
- Lead PI NASA and Lead PD USDA NIFA Grant Awards for 7th North American Carbon Program Open Science Conference
- UC Merced Outstanding Graduate Award for University Leadership and UC Toxics Substance Research and Teaching Program (UC TSR&TP) Grant
- DOE Lawrence Livermore National Lab-University of California Program for Energy and Environment Grant for black carbon research using radiocarbon
- University of Wyoming International Graduate Award for Excellence in Internationalization and PEO International Peace Award