

Curriculum Vitae
FRANCES MARIE S. PANDAY
fpanday@umd.edu

EDUCATION

- University of Maryland, College Park** 2022
B.S. Environmental Science and Policy, high honors
Minor in Remote Sensing of Environmental Change
GPA: 3.97/4.0, magna cum laude
Thesis: An Evaluation of the Climate Change Preparedness of Terrestrial Protected Areas in Maryland
- University of Maryland, College Park** 2023
M.S. Geographical Sciences, University of Maryland, College Park

PUBLICATIONS

Manuscripts in Review

- 2021
Lamb, R., Hurtt, G., Spivy, A., Ma, L., Campbell, E., Dubayah, R., Goetz, S., Hoffman Delett, C., Jantz, P., **Panday, F.M.**, & Tang, H. High-resolution geospatial framework for future forest carbon storage and protected area expansion in Maryland, USA. *Environmental Research Letters*.

Technical Reports

- 2021
Albee, M., Hoffman Delett, C., **Panday, F.M.**, Sandborn, H. Including Campus Forest Carbon Estimates into Climate Mitigation Planning. *Geography Research Works*. <https://doi.org/10.13016/j1uc-a7bt>

CONFERENCES & PRESENTATIONS

Panday, F.M., Caine M., Liu, T., Pendergrass, T., Kelp, M., Mickley, L. U.S. Trends in Wildfire Smoke Derived from Satellite and Airport Data from 2010-2020. A33G - Methodological Improvements in Fire Smoke and Smoke Exposure. Annual Meeting of the American Geophysical Union (AGU), December 13-17, 2021. *eLightning session*. <https://doi.org/10.1002/essoar.10509830.1>

Lamb, R., Hoffman Delett, C., Albee, M., **Panday, F.M.**, Hurtt, G., and DeLeon, S. Innovating Reforestation Protocols for Carbon Markets with High-Resolution Forest Carbon Science. SY34A: Accessing Broader User Communities for Earth Observations of Terrestrial Systems, Annual Meeting of the American Geophysical Union (AGU), December 13-17, 2021. *Oral Session*. <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/832546>

Panday, F.M. U.S. Trends in Wildfire Smoke Derived from Satellite and Airport Data from 2010-2020. Leadership Alliance National Symposium, Brown University, July 29-31, 2021. *Oral presentation*.

Panday, F.M. Hawaiian Spinner Dolphins: Vulnerability to Climate Change and Exposure to Anthropogenic Sound. Maryland Undergraduate Research Day, University of Maryland, College Park, April 26-30, 2021. *ePoster*. <https://doi.org/10.13016/bwsi-dh7c>.

RESEARCH EXPERIENCE

Undergraduate Research Assistant: UMD Office of Sustainability and Department of Geographical Sciences, University of Maryland, College Park (research advisors: Dr. R. Lamb and Dr. G. Hurtt). Assist in advancing UMD's climate action goals in carbon neutrality through NASA Carbon Monitoring System science and remote sensing methodology to include land-based carbon in UMD's annual GHG inventory and climate action plan. Analyze forest change, carbon sequestration potential, and carbon dynamics on UMD owned properties from 2011-2021. Presented work to various stakeholders including the MD Department of Natural Resources, MD Department of the Environment, and the UMD Sustainability Council. 2021-present

Honors Thesis Research: UMD Department of Geographical Sciences and Environmental Science and Policy Departmental Honors Program (research advisor: Dr. G. Hurtt and Dr. R. Lamb). Conducted original, independent research evaluating the preparedness of terrestrial protected areas (PA) in MD. Developed an algorithm that calculated the climate residence time in each PA and qualitatively scored their associated management plans for language surrounding climate change adaptation and/or mitigation. Culminated in an oral defense of the thesis and passed with high honors. 2020-2022

ENSP Senior Capstone Research: UMD Environmental Science and Policy Program (research advisor: Ms. A. Spivy). Investigated the occurrence of bird and wildlife strike hazards at Naval Air Station Patuxent River (NAS PAX) as it relates to land cover change. Conducted a change detection analysis of 1-m land cover classification data from 2011, 2015, and 2018 at NAS PAX. Identified trends in wildlife strike data, species management data, and species risk analytics from 2008 to 2021. Correlated these results to determine relationship between land cover and strike risk. Developed ArcGIS Online Dashboard to display results. Culminated in oral presentation to USDA-APHIS. 2022

Evolution, Ecology, and Environment National Science Foundation REU Fellow: Harvard University, School of Engineering and Applied Sciences (research advisor: Dr. L. Mickley). Derived trends in wildlife strike over the contiguous U.S. using NOAA Hazard Mapping System (HMS) satellite data and local airport data from 2010 to 2010. Developed an algorithm to validate the NOAA HMS product with local airport data. Culminated in virtual presentation at Brown University's Leadership Alliance National Symposium and e-lightning presentation at the Annual Meeting of the American Geophysical Union. Funded by NSF REU Grant 1757780 2021

Research Intern: NOAA Fisheries Office of Science and Technology, Protected Species Branch (research advisors: Dr. M. Srinivasan and Mr. M. Lettrich). Populated a database of 20 life history and ecological traits for eight marine mammal species to identify their vulnerability to climate change and subsequent risk factors. Researched and catalogued background narratives from the Marine Mammal Climate Vulnerability Assessment. Gave final presentation to NOAA Fisheries office and presented research at Maryland's Undergraduate Research Day. 2020-2021

WORK EXPERIENCE

Front Desk/Office Assistant, Department of Geographical Sciences University of Maryland, College Park 2022-present

Sustainability Intern, World Resources Institute, Washington D.C. 2021

Environmental Literacy Counselor Intern, Parks and People Foundation, Baltimore MD 2019

Veterinary Hospital Assistant Technician, TLC for Pets, Reisterstown, MD 2017-2018

LEADERSHIP EXPERIENCE

Science Diplomacy Teaching Assistant, Federal-Global Fellows Program, University of Maryland, College Park. 2021-2022

Rush Chair, Epsilon Eta, Environmental Honors Fraternity, University of Maryland, College Park. 2021-2022

Deputy Chair, Sustainability Fund Review Committee, Office of Sustainability, University of Maryland, College Park. 2020-2022

Sustainability Advisor, UMD Office of Sustainability, University of Maryland, College Park. 2019-2022

ENSP Representative, Behavioral and Social Sciences Dean's Student Advisory Council. 2020-2021

Director of Marketing, Students for the Ethical Treatment of Animals Advisory Council. 2019-2020

AWARDS & HONORS

University of Maryland Senior Marshal for Spring 2022 Commencement 2022

University of Maryland President's University Medal Nominee 2022

James R. Anderson Award for Outstanding Performance as an Undergraduate in the Geographical Sciences	2022
Highest GPA Undergraduate (Environmental Science & Policy)	2022
Undergraduate Independent Research Award	2021-2022
Green Scholarship for Environmental Protection	2021
Brian R. Melchoir Memorial Endowed Research Award for Geographical Sciences	2021
Maryland Environmental Service Scholarship Award	2020
The Betty Beckley Award for Letters & Sciences	2019
University of Maryland's Dean's List	2018-2022
Scholastics Art and Writing Awards, National Silver Medal Portfolio in Film, Gold Keys, and Silver Keys in Film	2015-2018

MEMBERSHIPS

American Geophysical Union	2021 – present
Ecological Society for America	2021 – 2022