

# Gabriel A. Abreu-Vigil

---

[gabreuvigil@gmail.com](mailto:gabreuvigil@gmail.com) [gabreuv6@uoregon.edu](mailto:gabreuv6@uoregon.edu) +1 (928)-853-7703

## EDUCATION

---

**University of Oregon** Eugene, OR  
*M.S. in Geography* September 2022-Present  
GPA: 4.00

**West Virginia University** Morgantown, WV  
*B.A. in Geography; Geographic Information Science* August 2017-May 2021  
*B.A. in Environmental Geoscience*  
*Spanish Minor*  
GPA: 3.95

**University of Seville** Seville, Spain  
*Study Abroad: Tourism and Communication Studies* Spring 2020  
GPA: 3.5

## RESEARCH EXPERIENCE

---

**Graduate Research Assistant | 40 hours/week** June-August 2023

NASA Goddard Institute for Space Studies, *Virtual*

Supervisors: Dr. Reginald Blake and Dr. Hamidreza Norouzi

- NASA Climate Change Research Initiative: work with NASA scientists and academics from CUNY New York City College of Technology
- Research team lead of undergraduate and high school students
- Developed regional machine learning algorithms to detect Chlorophyll-a and Harmful Algal Blooms (HAB) concentrations using high-resolution satellite imagery

**Graduate Research Assistant | 15 hours/week** September 2022-Present

Terrestrial Ecosystem Ecology and Landscapes Lab, University of Oregon, *Eugene, OR*

Advisor: Dr. Melissa Lucash

- Landscape ecosystem modeling using model LANDIS-II
- Forecasting future trends in permafrost, and hydrology dynamics in Alaska's boreal forests with climate change and increased disturbance from wildfire
- Funded by NSF, work part of Bonanza Creek LTER

**GIS and Remote Sensing Intern | 10 hours/week** January-May 2021

West Virginia Land Trust, WVU Geography Internship Experience, *Morgantown, WV*

- Field, GIS, and remote sensing research on forest cover using land cover analysis for work on carbon estimates for the land managed by the WVLT
- Online GIS map creation for protected land managed by the WVLT
- Fieldwork: measuring standing tree biomass and coarse woody debris using a variety of tools
- Education talks and tree plantings at public events

## PROFESSIONAL WORK EXPERIENCE

---

**Graduate Teaching Fellow | 15 hours/week** September 2022-Present

University of Oregon, *Eugene, OR*

- GE for lab sections of GEOG 141, Natural Environment; GEOG 321, Climatology; GEOG 322, Geomorphology; GEOG 485, Remote Sensing I
- Manage weekly lab discussions, deliver material on skills/concepts, host office hours, and grade

**Paleoecology Lab Technician | 10 hours/week**

October 2022-June 2023

Paleoecology and Biogeography Lab, University of Oregon, *Eugene, OR*

Work for post-doc William Nanavati, Advised by Dr. Dan Gavin

- Processing lake sediment cores to reconstruct past fire events and ecological changes
- Subsect cores, test for magnetic sustainability, sieve for charcoal, charcoal count, pollen ID/count, data processing and visualization, and precise record keeping

**North American Language and Cultural Assistant Program Auxiliary | 20 hours/week** October 2021-June 2022

I.E.S. Mar Mediterráneo, *Aguadulce, Almería, Spain*

- Class content creation on a variety of subjects using written, oral, digital, and physical formats
- Leading classroom activities to facilitate English learning
- Auxiliary to teachers, classroom assistant on a variety of educational activities
- Courses: Biology and Geology, Chemistry and Physics, Math, Technology, Music, Art, and Physical Education
- Secondary school level (ages 12-18), ~100 kids per week

**Private English Tutor | 10 hours/week**

October 2021-June 2022

*Almería, Spain*

- Personalized English lessons with the goal of language improvement with the student's writing, reading, and speaking capabilities
- Individual lessons or lessons taught in small group settings
- Age range: 4-35

**GIS Technician Intern | 20 hours/week**

August 2018-June 2021

West Virginia Geographical Information System Technical Center, *Morgantown WV*

- Scanning, image processing, digitizing and georeferencing DOT highway/railroad plans
- Working on building identification of structures in FEMA flood zones, imagery analysis, field assessment, and confirmation work for building identification and risk mapping
- Map creation for the New River Gorge Trail Alliance
- Collecting, managing, and uploading trail GPS data onto an online state trail database
- Community outreach through data sharing and collection for other state databases

**Field and Trail Technician | 30 hours/week**

May-August 2021

West Virginia Land Trust, *Morgantown, WV*

- Trail planning, mapping, flagging, and construction
- Invasive species identification and removal with a variety of tools and machines
- Lead incoming freshmen in Adventure West Virginia program to assist with trail construction and invasive species removal
- Tree planting as a part of reforestation efforts along roads, riparian buffers, and old field sites

**Student Ambassador for West Virginia Science Public Outreach | 5 hours/week** August 2020-May 2021

West Virginia Science Public Outreach Team, *Virtual*

- Presenter of climate change in the Mountain State presentation to K-12 students/community events

- Organization of Climate Change Earth Day panel, organization, and communication with local politicians, community activists, professors, and scientists
- Creation of science outreach videos, recordings, and other media content

### **Urban Forestry GIS Intern | 40 hours/week**

May-August 2019

Cacapon Institute, *Great Cacapon, WV*

- Worked on inventorying 200 projects, used GIS to review land use data to target locations for future BMP installations, and led culvert & stream assessment with the WV DEP
- GPS collection & data processing of trees for Charles Town and Martinsburg, WV
- Tree ID/planting, watershed & forestry education, map creation, and public presentations

### **White Water Raft and Kayak Guide | 40 hours/week May-August 2017-2018, | 20 hours/week 2019-2022**

River and Trail Outfitters, *Harpers Ferry, WV*

- White water rafting, canoeing, kayaking, and tube leading on a variety of aquatic terrains
- Leadership, team development, customer service, public speaking, knowledge of wildlife/ecology/history
- Trip Leader and Safety Sweep responsible for guests, guides, safety, and overall management
- Certifications in First Aid and CPR, practice with First Aid

### **CONFERENCE PRESENTATIONS**

---

- **Gabriel Abreu-Vigil**, Shelby Weis, Adrienne Marshall, Dmitry Nicosky, Melissa Lucash. (2023). “Spatial Modeling of Permafrost Thaw, Hydrologic Trajectories and Vegetation Shifts under Wildfire and Climate Change in Interior Alaska's Boreal Forest” American Geophysical Union. San Francisco, California.
- **Gabriel Abreu-Vigil**, Grace Tan, Alissa Sherbatov, Fahmeda Khanom, Marzeih Azarderakhsh, Nicholas Smirnov, Hamid Norouzi, Reginald Blake. (2024). “Detection of Harmful Algal Blooms (HABs) in Lakes at the Regional Scale Using Satellite Remote Sensing and Machine Learning Techniques” American Geophysical Union. Virtual.
- Shelby Weis, **Gabriel Abreu-Vigil**, Adrienne Marshall, Dmitry Nicosky, Melissa Lucash. (2023). “Vegetation shifts, permafrost thaw, and hydrologic dynamics in the boreal forests of Alaska under future climate and wildfire” Ecological Society of America. Portland, Oregon.
- **Gabriel Abreu-Vigil**, Melissa Lucash. (2023). “Alaskan boreal forests under future climate change and increased wildfire disturbance: modeling trajectories of permafrost thaw, vegetation shifts, and hydrologic dynamics” Joint Campus Conference. Eugene, Oregon.
- Shelby Weis, **Gabriel Abreu-Vigil**, Adrienne Marshall, Kate Hayes, Brian Buma, Dmitry Nicosky, Melissa Lucash. (2023). “Modeling Fire and Vegetation Shifts in Alaskan Boreal Forests Under Future Climate Change” International Association for Landscape Ecology – North America. Riverside, California.
- **Gabriel Abreu-Vigil**, Rick Landenberger, Nektaria Adaktilou. (2021). “Forest Land Cover Analysis for Conservation Management Using Remote Sensing within Protected Land in West Virginia” American Society for Photogrammetry and Remote Sensing Conference. Virtual.
- **Gabriel Abreu-Vigil**. (2019). “The Use of LiDAR for Identifying Landslides in West Virginia” Geospatial International Symposium – U.S. Geospatial Intelligence Foundation. San Antonio, Texas.

### **TECHNICAL SKILLS**

---

- ESRI software: ArcPro, ArcMap, ArcGIS Online, Collector, Survey 123
- ERDAS Imagine
- QGIS
- Coding languages: R, JavaScript, Python
- GeoDa
- GPS collection and data processing, mainly with Trimble
- Adobe Suite: Photoshop, Acrobat, Illustrator
- Microsoft software: Word, Access, PowerPoint, Excel
- Accurate record-keeping in work notebook, online record-keeping

## LANGUAGES

---

- English – Native
- Spanish – Fluent
- Portuguese – Beginner

## RELEVANT COURSEWORK

---

English Composition and Rhetoric, English Rhetoric and Research, Biogeography, Calculus, Chemistry, Physics, Digital Earth, Earth Through Time, Environmental GIS, Geographic Info Systems/Science, Geographic Statistical Analysis, Geology for Environmental Scientists, Global Environmental Change, Human Geography, Remote Sensing, Natural Resource Policy & Governance, Natural Resources, Physical Geography, Physical Hydrology, Planet Earth, Conservation Ecology, Global Ecology, Reclamation of Disturbed Soils, Geography Professional Experience, Wildlife Ecosystem Ecology, World Regions, Long Term Environmental Change, Geographic Data Analysis, and Pyrogeography

## PROFESSIONAL/ACADEMIC ACHIEVEMENTS AND SERVICE

---

University of Oregon Rippey Research Grant	2023
ESIIL Innovation Summit Travel Award	2023
Journal peer reviewer: Fire Ecology	2023
WVU President's List	2017, 2018 (2), 2019 (2), 2020, 2021
WVU Summa Cum Laude Graduate	2021
WVU Honors College Graduate	2021
ASPRS Student Scholarship	2021
Geography Undergraduate Scholarship	2020
USGIF Student Scholarship	2019
WVU Academic Scholarship of Distinction	2017-2021
West Virginia Promise Scholarship	2017-2021

## PROFESSIONAL ASSOCIATIONS/CLUBS

---

<b>Student Member</b> , American Geophysical Union	2023-Present
<b>Student Member</b> , International Association of Landscape Ecology	2023-Present
<b>Student Member</b> , Ecological Society of America	2023-Present
<b>Member</b> , Environmental Data Science Innovation & Inclusion Lab Network	2023-Present
<b>Department Steward</b> , Graduate Teaching Fellows Federation, University of Oregon	2022-Present
<b>Member</b> , Associated Graduate Students in Geography, University of Oregon	2022-Present
<b>Student Member</b> , American Society for Photogrammetry and Remote Sensing	2021-2022
<b>Student Ambassador</b> , WV Science Public Outreach Team, WVU	2020-2021

<b>Member</b> , Gamma Theta Upsilon Geography Honors Society, WVU	2020-2021
<b>Member</b> , WVU Sierra Club	2020-2021
<b>Member</b> , WVU Geography Club	2020-2021
<b>Accounting and Fundraising Chair</b> , WVU Relay for Life, WVU	2018-2021
<b>Treasurer</b> , Health Science and Technology Academy Alumni Club, WVU	2017-2021
<b>Member</b> , WVU Club Swim Team	2017-2019

## CONFERENCES/WORKSHOPS

---

<b>Arctic Climate Change and Community Collaboration Workshop</b>	January 2024
<b>American Geophysical Union Conference</b>	December 2023
<b>Ecological Society of America Conference</b>	August 2023
<b>Oregon Universities Environmental Studies Joint Campus Conference</b>	May 2023
<b>Environmental Data Science Innovation &amp; Inclusion Lab Innovation Summit</b>	May 2023
<b>International Association of Landscape Ecology – North America Conference</b>	March 2023
<b>American Society for Photogrammetry and Remote Sensing Annual Conference</b>	May 2021
<b>U.S. Geospatial Intelligence Foundation Symposium</b>	June 2019
<b>Chesapeake Bay Foundation’s Potomac Watershed Partnership Conference</b>	June 2019

## COMMUNITY INVOLVEMENT

---

<b>Volunteer</b> , American Rivers, <i>Detroit, OR</i>	Spring 2023
<ul style="list-style-type: none"> <li>River clean-up along Breitenbush River, archeological site restoration at Breitenbush Hot Springs</li> </ul>	
<b>Volunteer</b> , Geography Club, <i>Eugene, OR</i>	Winter 2023
<ul style="list-style-type: none"> <li>Mapping natural gas pipelines in Eugene, Oregon for Beyond Toxics</li> </ul>	
<b>Volunteer</b> , Student Sustainability Center, <i>Eugene, OR</i>	Winter 2023
<ul style="list-style-type: none"> <li>Forest restoration at Hendricks Park: invasive plant removal, tree planting</li> </ul>	
<b>Volunteer</b> , University of Oregon Outdoor Program	Winter 2023
<ul style="list-style-type: none"> <li>Co-lead on front country ski trip for undergraduate students to Hoodoo Mountain</li> </ul>	
<b>Volunteer</b> , MLK Day of Giving, <i>Eugene, OR</i>	Winter 2023
<ul style="list-style-type: none"> <li>Willamette River trash clean-up</li> </ul>	
<b>Volunteer</b> , I.E.S Mar Mediterráneo, <i>Almería, Spain</i>	Spring 2022
<ul style="list-style-type: none"> <li>English coach for students performing at the 2022 Almeria Provincial Fair of Plurilingualism</li> </ul>	
<b>Volunteer</b> , College Guild	Fall 2020-Fall 2022
<ul style="list-style-type: none"> <li>Reading and Writing Virtual Tutor</li> <li>Read and provide writing feedback to incarcerated students from across the USA</li> </ul>	
<b>Volunteer</b> , Cacapon State Park, <i>Berkley Springs, WV</i>	Spring 2021
<ul style="list-style-type: none"> <li>Invasive species removal and management: herbicide and saw equipment training, brush cutting and chemical treatment</li> </ul>	
<b>Volunteer</b> , West Virginia Land Trust, <i>Morgantown, WV</i>	Spring-Summer 2021
<ul style="list-style-type: none"> <li>Community tree planting events in and around Morgantown public parks</li> </ul>	

**Volunteer**, WVU Honors Hall, *Morgantown, WV*

Fall 2018-Fall 2019

- Freshmen move-in helper for Honors Hall

**Volunteer**, West Virginia University, *Morgantown, WV*

Fall 2017-Spring 2018

- Trail restoration at Blackwater Falls State Park and Falling Run Trail in Morgantown