

# ELIZA BREDER

Researcher  
Planner  
Landscape Designer  
Hydrologist

## CONTACT

elizabreder@berkeley.edu

## SOFTWARE


ARCmaps  
ArcGIS Pro  
AutoCAD  
LandFX  
Sketchup  
Adobe Photoshop  
Adobe Illustrator  
Adobe InDesign  
Excel and Office Suite  
R Statistics  
Storymaps  
Word press

## SKILLS

Time management  
Self-motivated  
Organized  
Reliable  
Integrity  
Team-work  
Empathy

## LANGUAGES

English (Native)



Brazilian Portuguese  
(Intermediate - Advanced)



Spanish (Pre-Intermediate)



## EDUCATION

### Ph.D. in Landscape Architecture & Environmental Planning

Emphasis: Environmental Justice, Disaster Studies, Flood Risk, Urban Humanities, Landscape Stewardship  
University of California Berkeley | May 2027

### Master of Landscape Architecture

Graduate Minor in Urban and Regional Planning  
Thesis: Layers of Resilience: Addressing Socio-Environmental Injustice and Flood Risk with a Design-Based Approach  
University of Florida | May 2022

### MSC Agricultural and Biological Engineering

Thesis: Landscape Irrigation Patterns as Influenced by Smart Irrigation Technology  
University of Florida | May 2017

### BSC Sustainability and the Built Environment

Thesis: Water Supply & Sanitation in Informal Settlements in Brazil  
University of Florida | May 2013  
Honors: Cum Laude

## PROFILE

My education and training is in landscape architecture, hydrology, data science, water conservation, sustainable development, environmental ethics, and urban and regional planning. I am interested in understanding the complex relationship between communities, water resources, and land uses. This intrigue, guided by equity and my concern for human well-being in the face of climate change, has led me to work on a variety of projects both in Florida and in the global south. The projects include work on sanitation and water supply development in informal settlements in Brazil, research and analysis on residential water use for water conservation in Florida, hydrologic analysis in water management, Florida Resilient Cities research for coastal climate adaptation, and data and project management for research projects that focus on understanding and treating the impacts of pathogens in the Haiti and Ethiopia. Through these experiences I have gained an extensive skill set; I have eight years of experience in geographic information systems and data analysis, four years of experience in water resource research, and three years of experience as a landscape architect in public research.

## WORK EXPERIENCE

### Graduate Research Assistant

#### **Florida Institute for Built Environment Resilience** | 2019 - 2022

Assisting the City of Port St. Joe with hurricane Michael recovery and long term resiliency planning in the face of a changing climate. Writing reports using InDesign, creating maps in ArcGIS Pro, completing systematic literature reviews, examining site's stormwater in AutoCAD.

### Data Management Analyst

#### **Emerging Pathogens Institute** | 2018

Managed databases of six unique million dollar grant projects to study the effects of Zika, Cholera, and Dengue Fever on vulnerable populations in Haiti.

### Hydrologist

#### **Suwannee River Water Management District** | 2017

Quantified current district-wide water usage to project future water use. Data was used to understand current and future impacts on local water bodies. Mapped recovery project locations in ArcGIS and modeled spring hydrology using a regression model in R.

### Graduate Research Assistant

#### **University of Florida**

#### **Department of Agricultural & Biological Engineering** | 2013 - 2017

Analyzed 4 million data points of water use from 167 suburban households in Orlando Florida to quantify water-savings from smart irrigation controllers. Data was analyzed in excel and R. Residential sites were mapped in ArcMaps.

### Environmental Tech Intern

#### **Sanepar** | 2012

Assisted Sanepar, a water supply company in Brazil with an outreach program "Se ligue na rede" or 'Connect in the net' by working with communities in informal settlements to connect to the municipal water and sewage system. Edited water supply networks in AutoCAD, logged broken pipe complaints in excel.

### Innovation Researcher

#### **GESIT Research Group, Universidade Federal do Paraná** | 2012

Incorporated LEED criteria into housing design for low-income Brazilian communities. Selected PURA, sustainable Brazilian low-flow technologies that maximize LEED points. Planned a rainwater capturing system for non-potable uses. Budgeted low-flow water technologies, pipeline and rain water harvesting storage. Communicated research and project plans via biweekly presentations to faculty and team members.

### Sustainability Researcher

#### **USGBC Research to Practice Program** | 2012

Educated the University of Florida community about untapped greening opportunities. Analyzed the sustainability of dormitories and the practices of dormitory residents. Identified methods of water savings in dormitories by prescribing low water flow technologies. Presented analysis results to demonstrate areas of cost savings to

the US Green Building Council.

#### **Sustainability Director**

**Santa Fe College Student Government** | 2010

Coordinated with campus maintenance to increase recycling service. Collaborated with transportation director to lobby for improved bus service and tuition-based bus costs.

#### **Copper Sculpture Assistant**

**David Cumbie Sculpture** | 2009

Assisted with copper pouring and tool cleaning.

### **RESEARCH PROJECTS**

#### **Resiliency Planning & Community Health**

Resilient Jacksonville Watershed Community Health research for Florida Resilient Cities and Ground Works | 2021 | *Research Assistant*

North Port St. Joe stormwater research and planning for the Project Area Coalition | May 2021 | *Research Assistant*

Resilient Port St. Joe community planning and research for The City of Port St. Joe and Florida Resilient Cities | 2019 - 2022 | *Research Assistant*

Haiti Zika Research Data management for Emerging Pathogens Institute | 2018 | *Data Management Analyst*

Informal Settlement Water Supply and Sanitation on Site Observation with Sanepar | 2012 | *Intern*

#### **Water Conservation, Hydrology, and Ecosystems**

Marineland Coastal Research Design Strategies for Sea Level Rise for the Town of Marineland | Fall 2021 | *Studio Research*

Spring hydrology Regression Model for Florida Water Management District | 2017 - 2018 | *Hydrologist*

Research on Irrigation Conservation in Central Florida for Water Resource Foundation and Orange County Utilities | 2014 - 2017 | *Research Assistant*

Strawberry Freeze Irrigation and Harvest Data Collection for Agricultural and Biological Engineering at University of Florida | 2013 - 2014 | *Research Assistant*

Water Efficient Technologies for Low-Income Households in Brazil with GESIT | 2012 | *Innovation Researcher*

Sustainability Analysis of UF Dormitories for USGBC Research to Practice Program | 2011 | *Student Researcher*

## TEACHING EXPERIENCE

Teaching Assistant | Fall 2021

### **Environmental Planning Studio**

Department of Landscape Architecture, University of Florida

*Desk critique*

*Grading*

Teaching Assistant | Summer 2020

### **Site Analysis**

Department of Landscape Architecture, University of Florida

*Grading*

Teaching Assistant | Fall 2015

### **Principles and Practices of Irrigation in Florida**

Department of Agricultural & Biological Engineering, University of Florida

*Lectures*

*Grading*

## VOLUNTEER EXPERIENCE

Repurpose Project | 2019

*Organized items for reuse.*

Grace Market Place | 2018

*Prepared food and served food in shelter kitchen.*

Alachua Humane Society | 2017

*Socialized cats and cleaned litter boxes.*

Habitat for Humanity | 2017

*Assisted with building homes, tasks included installing front door, painting, general construction and clean up.*

Cedar Key Oyster Research | 2016

*Counted number of oysters on lab-built concrete structures as a part of environmental engineering research.*

Ashton Biological Preserve | 2015 - 2017

*Assisted with Gopher Tortoise feeding and habitat maintenance.*

Hurricane Katrina Relief | 2005

*Assisted with general construction, tasks included laying floor boards, removing debris, painting, and removing dry wall.*

Coalition for the Homeless | 2004 - 2009

*Aided nonprofit for unsheltered with various tasks including, donations, making food, cleaning, and other assistance.*

## **MEMBERSHIPS**

California ASLA | 2022-Present

American Planning Association | 2021-Present

Florida ASLA | 2020-2022

Sigma Lambda Alpha Honor Society | 2020-Present

## **LEADERSHIP**

Chair, Graduate Student Professional Development Committee | 2015 - 2017

*Organized department wide poster events and three minute thesis events*

*Delegated tasks to a committee of seven graduate students and staff*

## **AWARDS**

Marquis, Latimer, & Halback Award for best graduate terminal project | 2022

Jonathan and Elizabeth Seymour Endowed Scholarship Award for work ethic | 2022

Graduate Olmsted Scholar | 2021

ASLA Florida Chapter Jacksonville Section Scholarship | 2020

Howard Sebold Award for leadership, scholarship and potential professional distinction | 2020

FANN Real Florida Landscapes Design Challenge – 2nd Place | 2019

## GRANTS AWARDED

Engaging Communities to Design Nature-based Solutions to Mitigate Climate-related Hazards. **Gulf Research Program | National Academy of Sciences**

"Nature Based Solutions to Mitigate Climate Change Impacts in Port St Joe, Florida" | \$100,000 | 2022

M. Volk, J. Carney, B. O'Dell, L. Platt, M. Deitch, M. Watson, J. Hendry, D. Bolden  
*Proposal Development: M. Volk, J. Carney, E. Breder*

Resilient Florida Grant Program

**Florida Department of Environmental Protection & Office of Resilience and Coastal Protection** "Resilient Port St. Joe" | \$ 131,933 | 2022

M. Volk, J. Carney, L. Platt, B. O'Dell, M. Deitch, E. Bean, C. Figueroa, **E. Breder.**  
*Proposal Development: J. Carney, M. Volk, E. Breder*

In Times of Crisis: Stories from the Gulf of Mexico Finalist

**The National Academies of Sciences, Engineering, and Medicine.**

"After Michael: Memory and Reinvention in Port St. Joe" | \$ 22,000 | 2021

J. Carney, C. Brisotto, **E. Breder**, A. Larson.

*Proposal Development: J. Carney and E. Breder*

Research Exhibit Grant

**Center for the Humanities and the Public Sphere supported by CHPS Rothman Endowment** "Port St. Joe: Finding Resilience on the Forgotten Coast" | \$ 2,000 | 2021

J. Carney, C. Brisotto, **E. Breder**, E. Aguerrebere.

**University of Florida Office of Research**

Travel Grant | \$ 74 | 2021

**E. Breder.**

**FIPSE U.S.-Brazil Higher. Education Program**

International Study Grant | \$ 4,000 | 2012

J. Macedo, **E. Breder**

## ASSISTANTSHIPS, SCHOLARSHIPS, & FELLOWSHIPS

Berkeley Fellowship | Landscape Architecture & Environmental Planning PhD | 2022 - 2023

**University of California Berkeley, College of Environmental Design**

Assistantship | 2019 - 2022

**University of Florida, Florida Institute for Built Environment Resilience**

Assistantship | 2014 - 2017

**University of Florida Graduate School, Department of Agricultural and Biological Engineering.**

Florida Medallion Scholar | 2009 - 2013

**Florida Department of Education**

## PRESENTATIONS & POSTERS

Presentation: "Layers of Resilience: Addressing Socio-Environmental Injustice and Flood Risk with a Design-Based Approach" **Florida Annual ASLA Conference: Coast to Coast** | August 2022

Presentation: "Understanding Flood Risks to Brownfields in Florida's Marginalized Communities to Create Public Space and Flood Secure Toxic Waste Remediation Design Guidelines" **EDRA 53: Health in All Design** | Greenville, SC | June 2022

Presentation: "Stormwater and Landscape: A Green Infrastructure Network to Reduce Stormwater Flooding, Reduce Non-Point Source Pollution, & Enhance Community Open Space" **Florida Brownfield Association Workshop** | North Port St. Joe, FL | August 2021

Poster: Layers of Resilience: Addressing Vulnerability of Small Coastal Florida Communities with a Design-Based Approach" **Environmental Design Research Association EDRA | Just Environments** | May 2021

Presentation: "Social Factors and Use of Vernacular Plant-Based Materials to Address Water Issues" **Councils of Educators in Landscape Architecture CELA | 100 + 1 Resilience Conference** | March 2021

Presentation: "Landscape Irrigation Patterns as Influenced by Smart Irrigation Technology" | **American Society of Agricultural and Biological Engineers ASABE** | Annual International Meeting | July 2016

Poster: "Landscape Irrigation Patterns as Influenced by Smart Irrigation Technology" | **University of Florida Center for Landscape Conservation and Ecology** | March 2016

Poster: "Landscape Irrigation Patterns as Influenced by Smart Irrigation Technology" | **University of Florida Water Institute Symposium** | February 2016

## PUBLICATIONS

Cardenas, Bernardo, Michael D. Dukes, Eliza Breder, and Jacqueline W. Torbert. "Long-term performance of smart irrigation controllers on single-family homes with excess irrigation." **AWWA Water Science** 3, no. 2 (2021): e1218.

Morera, Maria C., Paul F. Monaghan, Michael D. Dukes, and Eliza Breder. "Predicting Satisfaction with Smart Irrigation Controllers and Their Long-Term Use among Homeowners in Central Florida." **JAWRA Journal of the American Water Resources Association** 53, no. 4 (2017): 929-943.

Tolbert, J. W., B. Tolley, T. Thill, L. M. Allen, M. D. Dukes, E. M. Breder, P. F. Monaghan, M. C. Morea, and W. Wells. "Smart Irrigation Controller Demonstration and Evaluation in Orange County Florida." **Water Research Foundation**, Report 4227 (2016).

## REPORTS

"Port St. Joe Watershed Strategies: Resiliency Plans for Avenue A and Central Channel Basins." **Florida Institute of Built Environment Resilience**. Florida Resilient Cities. Jeff Carney, Mike Volk, Bill O'Dell, Christian Calle Figueroa, Eliza Breder, Forough Forourtan. August 2022.

"Stormwater and Landscape: A Green Infrastructure Network to Reduce Stormwater Flooding, Reduce Non-Point Source Pollution, & Enhance Community Open Space" **North Port St. Joe Community Workshop. Florida Institute of Built Environment Resilience**, University of Florida. School of Architecture and Engineering Technology, Florida A & M University. Volk, M., Deitch, M., Luo, Y., M, Haley., Breder, E. Oct 2021. (30-39).

"Port St. Joe Year 1 Report (2019-2020)." **Florida Institute of Built Environment Resilience**. Florida Resilient Cities. Jeff Carney, Cleary Larkin, Bill O'Dell, Mike Volk, Eliza Breder. Dec 2020.

"Port St. Joe Snap Shot." **Florida Institute of Built Environment Resilience**. Florida Resilient Cities. Jeff Carney, Cleary Larkin, Eliza Breder. Dec 2019.

"Smart Irrigation Controller Demonstration and Evaluation in Orange County Florida" **Orange County Utilities Phase II Annual Report**. Michael D. Dukes, Eliza M. Breder. Dec 2015.

"Smart Irrigation Controller Demonstration and Evaluation in Orange County Florida" **UF-ABE Internal Phase II Annual Report**. Michael D. Dukes, Eliza M. Breder. Jul 2015.

"Smart Irrigation Controller Demonstration and Evaluation in Orange County Florida" **UF-ABE Internal Phase I Final Report**. Michael D. Dukes, Eliza M. Breder. Jul 2014.