

# Curriculum Vitae

## **Geoffrey Fouad**

Associate Professor of Geography, Monmouth University, West Long Branch, NJ 07764

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### Areas of Specialization

I am a **geographer** who uses **geographic information systems (GIS)**, **remote sensing**, and **modeling** to study **water resources**, the **environment**, and **social** systems in space and time.

### Education

|   |                               |          |
|---|-------------------------------|----------|
| San Diego State University/UC Santa Barbara | Ph.D. in Geography            | May 2016 |
| University of South Florida                 | M.S. in Environmental Science | May 2009 |
| University of South Florida                 | Graduate Certificate in GIS   | May 2009 |
| Catawba College                             | B.S. in Environmental Science | May 2006 |

### Teaching and Research Appointments

|   |                          |
|---|--------------------------|
| Associate Professor of Geography,<br>Monmouth University, New Jersey  | July 2022-present        |
| Graduate Faculty, Monmouth University, New Jersey<br><a href="#">Reappointment Letter, June 2021</a>                    | August 2016-present      |
| Assistant Professor of Geography, GIS Program Director, and<br>University Cartographer, Monmouth University, New Jersey | August 2016-June 2022    |
| Adjunct Professor, Geography, Manhattan College, New York   | Spring 2022              |
| Adjunct Professor, Environmental Science, Stockton University, New Jersey   | Fall 2021                |
| Instructor, Geography, Bronx Community College, New York  | October 2019-August 2020 |
| Adjunct Professor, Physical Geography, Mesa College, California   | Fall 2015                |
| Adjunct Professor, GIS, Palomar College, California   | Fall 2015                |
| Graduate Assistant, Joint Doctoral Program in Geography,<br>San Diego State University and UC Santa Barbara             | August 2010-August 2015  |
| Researcher, Florida Water Science Center,<br>US Geological Survey, Tampa, Florida                                       | October 2008-August 2013 |

## **Courses Taught**

### *Undergraduate Courses, Lower Level*

Introduction to Physical Geography (GO/SC 103), 6 terms (online in 3 terms)  
Geography and Natural Sciences Program, Monmouth University

Introduction to Physical Geography (GEOG 101), Fall 2015  
Geography Program, Mesa College

Telling Stories with Maps (SOC 225), Spring 2022  
Geography Program, Manhattan College

Environmental Geography (GO 102), 8 terms  
Geography Program, Monmouth University

People, Places, and Environments (GO 100), Fall 2016  
Geography Program, Monmouth University

Introduction to GIS (GIS 224), 15 terms  
GIS Program, Monmouth University

### *Undergraduate Courses, Upper Level*

Spatial Data (GIS 324), 5 terms  
GIS Program, Monmouth University

Spatial Analysis (GIS 325), 4 terms  
GIS Program, Monmouth University

### *Graduate Courses*

Introduction to GIS (AN/GO 524), 6 terms  
GIS Program, Monmouth University

Introduction to GIS (ENSC 5120), Fall 2021 (online)  
Environmental Science Professional Master's Program, Stockton University

GIS Database Design (GO 520), 2 terms  
GIS Program, Monmouth University

Spatial Analysis (GO 540), Spring 2021  
GIS Program, Monmouth University

## **Research with Students (\* denotes the student)**

### *Publications*

Veit, R., \*M. Brown, and G. Fouad. 2021. Archaeology of the Middlebrook Encampments: Problems and Prospects. In: Barth, L.J., S. Blinn, and M.W. Sullivan (Eds.). The Continental Army Comes into Its Own: The Middlebrook Cantonment of 1778-1779. The Heritage Trail Association, Bridgewater, New Jersey. [Link](#)

Heinrich, A.R., R. Veit, **G. Fouad**, T. Herrington, J. Stiteler, A. Vovk, and \*M. Brown. 2021. *Report on the Results of the Phase II Archeological Survey of the Cove House Site (28-Mo-161) in the Sandy Hook, Gateway National Recreation Area, Middletown Township, Monmouth County, New Jersey (PMIS 255715)*. Report for the National Park Service, Gateway National Recreation Area Sandy Hook Unit.

\*Badlowski, G.A., J.E. Adolf, and **G. Fouad**. 2021. Spatial analysis of water quality parameters in Hilo Bay, Hawai'i using a combination of interpolated surfaces and hot spot analysis. *Environmental Monitoring and Assessment*, 193. [Link](#)

#### *Thesis Advising*

Knipple, R.M. *Mapping the Pleistocene: Understanding the relationship between Paleoindian peoples and Pleistocene megafauna in the American northeast using maps*. Department of History and Anthropology, Monmouth University, 2022. [Link](#)

Fransbergen, S. *Expansion-contraction: Spatial and temporal variability in connectivity in a stream-wetland flow network*. School of Geosciences, University of South Florida, 2021. [Link](#)

Napoleon, T. *A predictive model for Pre-Contact period occupation within the Rancocas Creek Watershed: Ranking variables using random forests*. Department of History and Anthropology, Monmouth University, 2020. [Link](#)

Brown, M.C. *Retracing the Middlebrook Encampments of the American Revolutionary War: A cartographic analysis*. Department of History and Anthropology, Monmouth University, 2020. [Link](#)

Fleming, E.K. *A culture-centered approach to geographic education for children via YouTube*. Department of Communication, Monmouth University, 2020. [Link to paper](#) and [project](#)

Menke, C.J. *Using modern eastern oyster (*Crassostrea virginica*) habitat to predict prehistoric shell midden site locations: A case study of Chester River, Maryland*. Department of History and Anthropology, Monmouth University, 2019. [Link](#)

#### *Presentations*

Rains, M, \*S. Fransbergen, K. Rains, and **G. Fouad**. *Expansion-contraction: Spatial and temporal variability in connectivity in a stream-wetland flow network*. American Geophysical Union Fall Meeting, Chicago, Illinois, December 12-16, 2022. [Link](#)

\*Ferreira Neto, O. and **G. Fouad**. *Comparative analysis of a low-cost unmanned aerial vehicle survey and high-cost LiDAR survey for a flood damage assessment in Lake Como, New Jersey, USA*. American Water Resources Association Annual Water Resources Conference, Seattle, Washington, November 7-9, 2022. [Link](#)

Adolf, J.E., \*E. Conlon, E. Ernst, **G. Fouad**, B. Heddendorf, T. Herrington, \*S. Lucas, R. Newby, R. Schuster, and \*A. Zavala. *Harmful algal blooms (or not!) in coastal lakes of Monmouth County, New Jersey: a comparative analysis using university, state, and citizen data*. United States Symposium on Harmful Algal Blooms, Albany, New York, October 23-28, 2022. [Link](#)

\*Pringle, M. and **G. Fouad**. *Identifying potential staging areas for effective wildfire response in Monmouth County, New Jersey, USA*. Mid-Atlantic Chapter of the Urban and Regional Information Systems Association Conference, Atlantic City, New Jersey, October 12-14, 2022. [Link](#)

\*Ferreira Neto, O. and **G. Fouad**. *Can a low-cost drone survey replace a high-cost LiDAR survey for building information modeling of a flood-risk assessment?* Monmouth University Summer Research Program Symposium, West Long Branch, New Jersey, August 11, 2022. [Link](#)

\*Craft, H., S.C. Sterrett, and **G. Fouad**. *Where should we be prioritizing the conservation of vernal pools for pond-breeding amphibians in New Jersey?* Northeast Fish and Wildlife Conference, Long Branch, New Jersey, April 3-5, 2022. [Link](#)

\*Craft, H., S.C. Sterrett, and **G. Fouad**. *Statewide prioritization of vernal pools for pond-breeding amphibians in New Jersey*. American Association of Geographers Annual Meeting, February 25-March 1, 2022. [Link](#)

Ramírez, K., \*J. Allan, and **G. Fouad**. *Female labor force participation and care of children in coastal New Jersey*. International Union for the Scientific Study of Population, International Population Conference, December 5-10, 2021. [Link](#)

\*Najd, M. and **G. Fouad**. *Application of unmanned aerial vehicle technology for an evaluation of surface drainage to an urban lake at the New Jersey shore*. American Water Resources Association Annual Water Resources Conference, November 8-10, 2021. [Link](#)

\*Allan, J., K. Ramírez, and **G. Fouad**. *Female labor force participation rates versus childcare availability in New Jersey*. Monmouth University Summer Research Program Symposium, West Long Branch, New Jersey, August 12, 2021. [Link](#)

\*Fransbergen, S., K. Rains, **G. Fouad**, and M. Rains. *Field validation of the National Hydrography Dataset and a regional hydrography dataset in Tampa Bay, Florida, USA*. Society of Wetland Scientists Annual Meeting, June 1-10, 2021. [Link](#)

\*Brown, M.C., **G. Fouad**, and R. Veit. *Retracing the Middlebrook Encampments of the American Revolutionary War: A cartographic analysis*. Society for Historical Archaeology Virtual Conference, January 6-9, 2021. [Link](#)

\*Badlowski, G.A., J.E. Adolf, and **G. Fouad**. *Spatial analysis of water quality parameters in Hilo Bay, Hawai'i*. American Association of Geographers Annual Meeting, Washington, DC, April 3-7, 2019. [Link](#)

## **Funding**

[GIS and field research high school learning program](#) 2021  
Agency: New York City Department of Education (up to \$100,000 over three years)  
PI: Geoffrey Fouad and Heather Butts

[Urban drainage paths and surfaces mapped by aerial drone survey](#) 2021  
Agency: Monmouth University's Summer Scholars (\$3,839)  
PI: Geoffrey Fouad

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| <a href="#"><u>Female labor force participation geographic analysis of covariates</u></a>            | 2021      |
| Agency: Monmouth University's Urban Coast Institute (\$3,320)  |           |
| PI: Katerine Ramírez and Geoffrey Fouad  |           |
| <a href="#"><u>Asbury Park African American History: Digital humanities project seed funding</u></a> | 2021      |
| Agency: Monmouth University's Diversity Innovation Grant (\$20,000)                                  |           |
| PI: Hettie Williams, Melissa Ziobro, and Geoffrey Fouad  |           |
| <a href="#"><u>Asbury Park African American History Project: Documenting effects of COVID-19</u></a> | 2021      |
| Agency: Monmouth University's Urban Coast Institute (\$4,860)  |           |
| PI: Hettie Williams, Geoffrey Fouad, and Melissa Ziobro  |           |
| <a href="#"><u>Crosswicks Creek shipwreck aerial drone survey</u></a>                                | 2020      |
| Agency: Monmouth University's Summer Scholars (\$3,827)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Wetland inundation potential based on terrain and runoff data</u></a>                 | 2019-2021 |
| Agency: Tampa Bay Water (\$176,875)  |           |
| PI: Geoffrey Fouad, Terrie Lee, and Kai Rains  |           |
| <a href="#"><u>Middlebrook Encampment archaeological assessment</u></a>                              | 2019      |
| Agency: Bridgewater Township (\$1,000)   |           |
| PI: Richard Veit and Geoffrey Fouad  |           |
| <a href="#"><u>Shell midden mapping project</u></a>  | 2019      |
| Agency: Monmouth University's Urban Coast Institute (\$2,600)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Community asset mapping project</u></a>   | 2019      |
| Agency: New Jersey Institute for Social Justice (\$6,275)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Elementary learning program on coastal cultures</u></a>                               | 2019      |
| Agency: Monmouth University's Urban Coast Institute (\$3,000)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Groundwater conditions of wetlands subject to groundwater pumping</u></a>             | 2017-2018 |
| Agency: Tampa Bay Water (\$83,500)   |           |
| PI: Geoffrey Fouad and Terrie Lee  |           |
| <a href="#"><u>Drone acquisition for Monmouth University education and research initiatives</u></a>  | 2018      |
| Agency: Monmouth University's Urban Coast Institute (\$2,662)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Lake Como bathymetry and flood mapping education and research project</u></a>         | 2017      |
| Agency: Monmouth University's Urban Coast Institute (\$1,800)  |           |
| PI: Geoffrey Fouad   |           |
| <a href="#"><u>Open access publication fee mini grant</u></a>  | 2017      |
| Agency: Monmouth University's Urban Coast Institute (\$750)  |           |
| PI: Geoffrey Fouad   |           |

[Open access publication fee faculty grant](#) 2017  
Agency: Monmouth University's Creativity and Research Fund (\$2,000)  
PI: Geoffrey Fouad

[Potentiometric surface modeling of the Upper Floridan aquifer](#) 2016  
Agency: Tampa Bay Water (\$46,000)  
PI: Geoffrey Fouad and Terrie Lee

### **Publications**

**Fouad, G.** and T.M. Lee. 2022. Validation of an approach to predict discharge rates from small, depressional wetlands. *Proceedings of the 39th International Association for Hydro-Environment Engineering and Research World Congress*. [Link](#)

**Fouad, G.** and T.M. Lee. 2021. A spatially distributed groundwater metric for describing hydrologic changes in a regional population of wetlands north of Tampa Bay, Florida, from 1990 to 2015. *Wetlands*, 41. [Link](#)

**Fouad, G.** and H.A. Loáiciga. 2020. Independent variable selection for regression modeling of the flow duration curve for ungauged basins in the United States. *Journal of Hydrology*, 587. [Link](#)

Veit, R. and **G. Fouad**. 2020. *A preliminary cartographic and archaeological investigation of the Middlebrook Encampments*. Report for Bridgewater Township, New Jersey. [Link](#)

**Fouad, G.** 2019. *Community asset mapping project in Camden, Newark, and Trenton, New Jersey*. Report for the New Jersey Institute for Social Justice. [Link](#)

Herrington, T.O. and **G. Fouad**. 2019. *Framework for a coastal ecological adaptation prioritization support tool: Methodology*. Report for New Jersey Department of Environmental Protection. [Link](#)

Lee, T.M. and **G. Fouad**. 2018. *Changes in wetland groundwater conditions in the northern Tampa Bay area from 1990 to 2015*. Report for Tampa Bay Water. [Link](#)

**Fouad, G.**, A. Skupin, and C.L. Tague. 2018. Regional regression models of percentile flows for the contiguous United States: Expert versus data-driven independent variable selection. *Journal of Hydrology: Regional Studies*, 17, 64-82. [Link](#)

Lee, T.M. and **G. Fouad**. 2017. *Extending the monthly time series of the potentiometric surface in the Upper Floridan aquifer, Northern Tampa Bay area, Florida, January 1990-December 2015*. Report for Tampa Bay Water. [Link](#)

Hope, A., **G. Fouad**, and Y. Granovskaya. 2014. Evaluating drought response of Southern Cape Indigenous Forests, South Africa, using MODIS data. *International Journal of Remote Sensing*, 35, 4852-4864. [Link](#)

Lee, T.M. and **G. Fouad**. 2014. *Creating a monthly time series of the potentiometric surface in the Upper Floridan aquifer, Northern Tampa Bay area, Florida, January 2000-December 2009*. US Geological Survey Scientific Investigations Report 2014-5038. [Link](#)

Alsharif, K.A. and **G. Fouad**. 2012. Lake performance differences in response to land use and water quality: Data envelopment analysis. *Lake and Reservoir Management*, 28, 130-141. [Link](#)

### **Student Scholarship Week Posters**

I advised the following students, often on their first piece of academic research, in the 2021-2022 academic year, for Monmouth University's Student Scholarship Week. I do this on an annual basis to train students in research methods and show the Monmouth University community the power of GIS in different disciplines.

Allan, J. *Female labor force participation rates versus childcare availability in New Jersey*. [Link](#)

Archinaco, C. *Grand larceny crimes in Staten Island, New York: A crime deterrence study*. [Link](#)

Bane, T. *New Jersey shipwrecks, an interactive map*. [Link](#)

Contino, J. *Comparison of criminal disturbance complaints in Brooklyn, summer 2019 versus summer 2020*. [Link](#)

Maguire, J. *Soil characteristics of red-backed salamander (*Plethodon cinereus*) monitoring sites in the Salamander Population and Adaptation Research Collaboration Network (SPARCnet)*. [Link](#)

Millheim, F. *A demographic analysis of flood zones in Ocean County, New Jersey, USA*. [Link](#)

Najd, M. *Application of unmanned aerial vehicle (drone) technology for an evaluation of surface drainage to an urban lake at the New Jersey shore*. [Link](#)

Negri, V. *Situational evacuation mapping at Linden, New Jersey refineries*. [Link](#)

Oscar, E. *Mapping urban and rural areas for an investigation of the impact of urbanization in house mice (*Mus musculus*)*. [Link](#)

Reichenbach, E. *Storm surge flood costs in Manhattan, New York, USA*. [Link](#)

Vunic, J. *Geographic patterns of fraudulent internet protocol addresses*. [Link](#)

Woods, R. *Mapping the distribution of fatal fires in New Jersey, USA*. [Link](#)