

Barnali Dixon Ph.D.

Summary of Expertise and Achievement [£]

Development and application of spatially integrated decision support tools (SDST) that combines geospatial framework (GIS, GPS and remote sensing tools) with Artificial Intelligence (AI) and Machine Learning (ML) Tools for modeling and managing water, soil, landuse and land-water interfaces (terrestrial sources and aquatics sinks, including coastal waters). I am particularly interested in modeling land-water interface under climate change in the context of extreme weather events and flooding and their impact on adaptation and resilience, with a particular emphasis on human dimension of analysis and community-engaged work. I have secured over \$3.5 million in grants and contracts. I have published 65+ refereed publications, five monographs, and fourteen technical reports and has 130+ conference presentations including 27 as invited speaker. I also published a Text Book called '*GIS and Geo Computation for Water Resources Science and Engineering*' with Wiley, Co-Editing a 2nd book titled: *Basics of computational geophysics*, Elsevier and my 3rd book titled: '*Interdisciplinary Environmental Solutions: Using geospatial technologies for bridging disciplines, scale and data*' is in Press with Springer/Palgrave International Publishing. Supervised 24 Thesis and Dissertations and served on 15 thesis and dissertation committees. I also Co-Supervised PhD dissertations at the College of Marine Science. My research is cutting edge, as evidenced by funding from [NSF Smart and Connected City Program](#) (2023-2026), AT&T Foundation for Climate Resilience (2020), and Duke Foundation (2024-2025). Recent recognition of my work includes: a) Recipient of USF Outstanding Faculty Award (2020), b) Recipient of the Fulbright Specialist Award (2019 – 2021) to work with Geo-Informatics and Space Technology Development Agency (GISTDA) at Thailand to promote the use of THEOS data for sustainability and resilience, c) Fellowship at Community-Based Participatory Research (CBPR) Partnership Academy, Urban Research Center, University of Michigan, 2022, and d) Recognized in the Stanford/Elsevier Citation list for top 2% researchers in single-year database for 2021 and 2023. For 2021 <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3> and for 2023 (<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>),

Professor and GIS and Remote Sensing

Executive Director of Initiative on Coastal Resilience and Adaptation (iCAR)

Director of Geo-Spatial Analytics Lab (G-SAL)

Program in Environmental Science, Policy & Geography

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[£] Google Scholar Citation history can be found at

<https://scholar.google.com/citations?user=tasWRXMAAAAJ&hl=en&oi=ao>

Education

Ph.D. in Environmental Dynamics, an interdisciplinary program between Geography and Geology (Focus: GIS, remote sensing, fuzzy logic, and neural networks in ground water contamination modeling), University of Arkansas, Fayetteville (2001) Drs. H D Scott and J. C. Dixon^{^1} (co-major Professors). **Dissertation Title:** *Application of Neuro-fuzzy techniques to predict ground water vulnerability in northwest Arkansas.*

M.A. Geography (Focus: GIS, remote sensing and fuzzy logic in soil erosion modeling), University of Arkansas, Fayetteville (1995). Major Professor J.C. Dixon^{^1} **Thesis Title:** *Identification of Soil Erosion Potential using Fuzzy Logic.*

M.A. Geography (Focus: remote sensing and terrain evaluation in environmental geomorphology), Visva Bharati University, India (1991) Major Professor V. C. Jha. **Thesis Title:** *Suri and its Environs: an analysis of environmental geology.*

B.A. Geography (Honors), Visva Bharati University, India (1989)

Special Courses/Certificates

1. Vadose Zone Hydrology
2. Watershed Management – Modeling and GIS Aspects
3. Water Quality of Surface and Ground Water and Best Management Practices

Professional Experience

August 2002 – Present: Founding Director, Geo-spatial Analytics Lab, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

May 2015 – Present: Founding and Executive Director of ICAR (the Initiative for Coastal Adaptation and Resilience)

May 2020 – present: Associate Editor of JAWRA with a focus on GIS/Geocomputational Water Resources
Jan, 2014 – May 2016: Chair, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

June 2013 – Dec 2013: Interim Chair, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

Oct, 2011 – May, 2013: Associate Chair, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

Dec 2010 – Dec 2012: Graduate Program Coordinator, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

August 2014 – Present: Professor, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

June 2008 – July 2014: Associate Professor, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

^{^1} (no relation to J. C. Dixon)

August 2002- May 2008: Assistant Professor, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

August 2001- July 2002: Visiting Assistant Professor, Dept. of Environmental Science, Policy and Geography, University of South Florida St. Petersburg.

May 1993 – July 2001: Research Assistant/Senior Research Associate, Soil Physics Laboratory, Dept. of Crop, Soil and Environmental Science, College of Agriculture, University of Arkansas at Fayetteville.

Responsibility May 1995 – July 2001

Research Responsibility

- ✓ Development of models using fuzzy logic and neural networks to predict ground water vulnerability to nitrate-N contamination in karst region of Arkansas,
- ✓ Identification of ground water vulnerability to pesticides and Nitrate-N using fuzzy logic in the Mississippi Delta region of Arkansas,
- ✓ Determination of spatial variability of contamination of ground water Nitrate-N in the Mississippi Delta region of Arkansas,
- ✓ Prediction of soil productivity and crop yield using neural networks and fuzzy logic,
- ✓ Managing the development of Order II digital soils database and compiling secondary attributes for soils,
- ✓ Development of the web site for the Savoy Experimental Watershed (SEW). This web site will provide environmental data and modeling tools (under construction)
- ✓ Development of the fuzzy logic based model used the parameters of USLE.
- ✓ Development and analysis of a digital database to characterize the Buffalo River Watershed.
- ✓ Lead GIS training workshop for the farm managers from African Countries organized by the University of Arkansas, International Exchange Program here in the USA (1994 – 1995 sponsored by the UN).

Responsibilities: August 2001- present (Teaching, Research and Service)

Teaching Responsibility:

Courses Include:

(i) Introduction to Physical Geography (ii) Introduction to GIS, (iii) Remote Sensing of the Environment, (iv) Advanced Remote Sensing, (v) Geographic Methods and Techniques, (vi) Digital Thematic Mapping, (vii) Computer Cartography, (viii) Environmental Modeling with GIS, (ix) GIS for Non-Majors, (x) Environmental Applications of GIS, (ix) Soils, Water and Landuse Interactions, (iix) Spatial Reasoning with GIS, (iix) Seminar in Environmental Science, (ivx) GIS for sustainability and (vx) Mapping and Geovisualization

Research Responsibility:

Grants Secured As PI unless otherwise noted:

- ✓ Storm Squad and CRIS: Building Equitable Climate Resiliency Across Florida. \$2,996,021 [2025-2028 under review]. US EPA - Environmental and Climate Justice Community Change Grant
- ✓ Design and Development of a Near Real-Time Community Crowdsourced Resilience Information System for Enhancing Community Resilience in the Face of Flooding and other Extreme Events. NSF Smart and Connected Communities [2023-2026], \$1,488,568
- ✓ CERT: Storm Squad: Capacity Building for Neighborhood-Level Response: Volunteer Florida, FEMA Federal Flow Through \$10,000 (2023 – 2024)
- ✓ Equitable Resiliency with Storm Squad - The Storm Squad initiative is a pilot project initiated by iCAR – USF, Duke Energy Conference Support (2023-2025). \$50,000
- ✓ Community Food Security Collaborative: Co-designing food insecurity and health implication analysis USF Pinellas County Partnership in Research and Creative Scholarship Grants Program ~9,200 – Academic Partner Dixon (2023-2024)
- ✓ Toward a Holistic Smart City: an innovative approach using a Community Resiliency Information System (CRIS) to foster resiliency. AT&T/DOD Argonne National Laboratory \$50,000 [2019-2020]
- ✓ Crowd-sourced neighborhood level environmental assets inventory to increase infiltration and reduce flooding. American Geophysical Union (AGU) Centennial Celebration Major Grant. \$9,550. [Duration 2020]
- ✓ iCAR, the Initiative for Coastal Adaptation, and Resilience at USFSP to host a workshop called ‘Climate Change and Adaptation- news from the frontiers’. USF Conference Grant and OPEN \$45,000 [2014 – 2019].
- ✓ Analysis of contamination from waste water treatment plants and septic systems in coastal water of Florida using GIS data. USGS. \$9,988, [Duration 2017 – 2019]¹.
- ✓ Mapping of spatio-temporal variation of landcover-change within the Reservation. Seminole Tribe \$166,361 [Duration 2015 – 2018]
- ✓ Linking soil erosion to sediment yields in coastal waters: An integrated geospatial modeling approach. USFSP Internal Award \$9,999 [2015-2016]
- ✓ Google Earth Pro Centers of Excellence in ‘Training and Application of GIS’. \$192,000. [Duration 2010 – 2019]².
- ✓ iCAR, the Initiative for Coastal Adaptation, and Resilience at USFSP to host a workshop called ‘*Climate Change Adaptation: Exploring A Regional Approach for Tampa Bay*’. USF Tampa Award. \$5,000 [Duration 2014 – 2015].
- ✓ Identifying Potential Watershed Nutrient Links to *Karenia* Red Tides: Integrated GIS Watershed Characterization of Southwest Florida coastal counties. FWRI. \$25,000 [Duration 2007]
- ✓ Applicability of the SWAT model to quantify the effects of urbanization on the water budget for the Charlie Creek watershed: an integrated approach. USGS. \$52,029 [Duration 2007]

¹ This grant was obtained by leveraging the data collected by the USFSP internal grant (\$4,197)

² Renewable in 2019 it was renewed for 2015 – 2019.

- ✓ Using RUSLE and SWAT to Estimate Fluxes and Fates of Eroded Soil Organic Carbon in the Hillsborough River Basin. C-SPACE Grant from EPA. \$105,152 [Duration 2006 - 2007]
- ✓ An Integrated GIS and Remote Sensing-Based Strategy for Assessing the Ecological Outcomes of Social Marketing. C-SPACE Grant from EPA. \$15,000 [Duration 2006 - 2007].
- ✓ Development of an integrated methodology to assess vulnerability of ground water to pathogen intrusion using GIS, remote sensing, neural networks and neuro-fuzzy methods. USGS-Florida Water Resources Research (FWRRC) ¹. \$186,119 [Duration 2005 – 2006]
- ✓ Web-based ground water pollution mapping contrast. Intergraph Corp. \$116, 165 [Duration 2005 – 2006]
- ✓ Interfacing SWAT and PHABSIM: A potential GIS-based Water Resource Management Tool. C-SPACE Grant from EPA. \$178,000 [Duration 2005 – 2006].
- ✓ Ground Water Vulnerability Delineation Using Integrated GIS and Neuro-Fuzzy Methods for DeSoto, Pinellas and Marion County. USGS- Florida Water Resources Research FWRRC² \$152,237 [Duration 2003 – 2004]
- ✓ Application of Neural Networks and Neuro-Fuzzy Methods to Ground Water Vulnerability Mapping: A GIS-based Integrated Approach in Hillsborough County, FL. Dept. of Environmental protection, FL: \$ 58,921 [Duration 2003 – 2005]
- ✓ Ground Water Vulnerability Delineation using Neural Networks, Fuzzy Logic, and Neuro-Fuzzy techniques: Arkansas. USDA-CSREES: \$305,000 [Duration: 2001 – 2004].
- ✓ Determining impacts of spatial variability of water quality in the Tampa Bay. USF-Internal Award : \$6,500 [Duration: 2003].
- ✓ Development of a Methodology to Estimate Soil Moisture Content from NEXTRAD-WSR-88D: USF Internal Grant for New Researcher Award: \$9,250 [Duration: 2003]
- ✓ Prediction of Ground Water Vulnerability to Animal Wastes/Fertilizers in Karst Topography using Fuzzy Logic. USGS- AWRC: \$55,000 [Duration: 2000 – 2001].

Grant Activities As Co-PI:

- ✓ Storm Squad Street Team: Community Food Security Collaborative (CFSC). Southeast Climate and Energy Network (SCEN) for Southern Communities. \$10,000. Co-PI Dixon – Lead PI is Florida Food Policy Council (2023)
- ✓ ICAR Phase VII – Climate and Environmental Justice Events - Community Engagement Efforts for Action Plan \$15,000. [Duration 2021-2022]. Co-PI Healthy Saint Pete Foundation

¹ Matching funds required

² Matching funds required

- ✓ COVID-19 Economic Recovery Markers from Satellite Imagery for City-Scale Decisions, USF Internal Grant for COVID19, \$25,000, [Duration: June, 2020 to May 2021] Co-PI
- ✓ Mapping for Reflective Functioning and Community Change, SCRA Collaborative Mini-Grant. \$1250 [Duration 2016] Co-PI
- ✓ A Proposal for Teaching FIO Ship time in Support of EVR 4930: Marine Environmental Instrumentation: A Practicum in the Collection and Analysis of Gulf Coast Oceanographic Data. Florida Institute of Oceanography \$15,200.00, as Co-PI. [Duration 2008]
- ✓ Water Quality Sampling Strategy for Monitoring Coastal Rivers and Estuaries- Applying Technological innovations to Tampa Bay and tributaries. C-SPACE Grant from EPA. \$114,958 [Duration 2006 - 2007]. Co-PI
- ✓ Pre-schoolers' vocabulary acquisition and understanding of scientific concepts from participation in repeated read aloud events involving informational picture books. Juvenile Welfare Board of Pinellas County and USF Collaborative for Children Families and Communities: \$15,000 [Duration: 2002 – 2003] Co-PI

Submitted Proposal Passed Peer Review:

- ✓ **Pending**¹: Integration of GIS, Neural networks and Neuro-Fuzzy Modeling Techniques to Assess the Vulnerability of a Drinking Water Distribution System. EPA-STAR Grants: \$599,891 [Duration 2004 – 2007].

Graduate Advising

Thesis/Dissertation Committee Chair:

- i. Mr. Alec Colarusso - Major Professor (PhD. Geography and Environmental Science and Policy). Title: *Estimating Flood Impact, Residence Times, and Recession Rates using an Integrated Camera Monitoring Network and Digital Twin*. In progress
- ii. Mr. Chris Atta Amponsha - Major Professor (MA, Geography). Title: *Machine Learning Applications Integrated with GIS for Flood Prediction*. In progress
- iii. Mr. Sam Yaw Appiah – Major Professor (PhD. Geography and Environmental Science and Policy). Title: *The use of geospatially integrated ML tools to predict environmental risk assessment*. In progress
- iv. Sierra Rains – Co-Major Professor (PhD. In Geography and Environmental Science and Policy). Title: *Experiences and coping strategies for dealing with rising heat due to climate change in socioeconomically vulnerable neighborhoods in the Tampa Bay area: A Community-based study*. In progress

¹ Passed peer review was not funded due to budget cut: EPA Office of Water

- v. Mr. Alec Colarusso – Major Professor (MS. School of Geosciences). Title: *Analysis Of OSTDS Failure Potential due to Sea-Level Rise and Other Inundation Factors: An Integrated Geo-Spatial Analysis*. Graduated Summer 2023
- vi. Mr. Leo Meirose -- Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Effects of DEM Resolution on Slope Characterization and Subsequent Stream Delineation and Flow: A comprehensive Analyses*. Graduated Summer 2019
- vii. Mr. Chris McHan - - Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Elusive or Illusive Truth? The Role of Sensors and Sampling Strategies in Data Collection and its Implication for Scientific Knowledge and the Pursuit of Truth*. Graduated Spring 2018.
- viii. Mr. Kyle Flanagan - Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Integration of Terrestrial Source, Landuse, and Watershed Hydrogeology in Coastal MPA Management*. Graduated Summer 2017.
- ix. Ms. Kimberly Lyons- Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Sediment Dynamics and Climate Change: An Integrated Model Approach to Evaluating the Effects of Projected Precipitation Changes on Sediment Production, Transport and Deposition at the Catchment Scale* , Graduated Fall 2016
- x. Ms. Elizabeth Merton – Co-Major Professor (MS. Department of Environmental Science, Policy and Geography). *A Comparison of Natural vs. Mitigated Wetlands: A Spatially Integrated Decision Support Approach*. Graduated Fall 2016
- xi. Ms. Jessica Gruber- Co-Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Analyzing and Mapping of factors that influence success and failure of conservation practice: a multi-scale study*. Graduated Summer 2016
- xii. Mr. Richard Knudson – Co-Major Professor (College of Marine Science, USF). A Study on the Integration of Multivariate MetOcean, *Ocean Circulation, and Trajectory Modeling Data with Static GIS for Better Marine Resources Management and Protection During Oil Spills*. Graduated Fall 2015
- xiii. Mr. Steven Douglas - Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Modeling of Surface and Groundwater Contamination and Human Health Risk: An Integrated Geospatial Approach*. Graduated Fall 2015
- xiv. Ms. Rene Duffy – Co-Major Professor (MS. Department of Environmental Science, Policy and Geography) Title: *A multi-scale approach for characterizing habitat selection of tidal creek fish in Charlotte Harbor, Florida*. Graduated Summer 2012
- xv. Mr. Rene Baumstrak – Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *An evaluation of image segmentation, texture analysis and pixel classification techniques for mapping Seagrass from satellite imagery in Springs Coast Florida and evaluating the effectiveness of these techniques in replacing traditional photointerpretation methods*. Graduated Summer 2011
- xvi. Mr. Fredrik Bradley - Major Professor (MS. Department of Environmental Science,

- Policy and Geography). Title: *Linking Watershed, Soil and Landuse/Landcover Characteristics to the spatial Variability of In-stream Water Quality in selected Florida Watersheds*. Graduated Fall 2011
- xvii. Ms. Shannon Connlley – Major Professor (MS. Department of Environmental Science, Policy and Geography). Title: *Soil moisture mapping using remote sensing and GIS*. Graduated Summer 2010.
- xviii. Dr. N. Williams – Co-Major Professor (PhD. College of Marine Sciences, USF Tampa). Title: *' Linking land use, soil erosion and sediment yield in estuaries using GIS, erosional models and 137Cs: An integrated approach*. Graduated Fall 2010
- xix. Ms. W. Batita – Co-Major Professor (MS. Department of Environmental Management, Mediterranean Agronomic Institute of Chania(**MAICh**), Greece) *'Examining resolution effects on the prediction of the soil erosion using RUSLE and MUSLE models for in Florida and Greece'*. Graduated 2009.

Undergraduate Honors Thesis Advising

- i. Mr. Mathew Vera – Major Professor. Honors Thesis (Department of Geography). Title: *Uncovering Race and Class Biases of the Floridian Police Force: A Geospatial Analysis*. Graduated 2021
- ii. Amada Fernandez – Major Professor. Honors Thesis. (Department of Environmental Science, Policy and Geography). Title: *The Impact of Wildfire on Soil Erosion using a GIS-integrated RUSLE Model and the Influence of DEM Resolution on Model Results*. Graduated Fall, 2018
- iii. Ms. Samantha Cope - Major Professor. Honors Thesis (Department of Environmental Science, Policy and Geography). Title: *A Spatial and Temporal Analysis of Tampa Bay Seagrass Populations Affected by Changes in Land Use, Imperviousness and Water Quality Using Habitat Suitability*. Completed Fall 2015
- iv. Ms. Tess Rivenbark - Major Professor. Honors Thesis (Department of Environmental Science, Policy and Geography). Title: *Cost-effectiveness of integrated GIS and remote sensing seagrass landscape characterization methods*. Graduated Spring 2016
- v. Ms. Kristine Berg. Co-Major Professor. Honors Thesis (Dept of Criminology). Title: *Drugs, Guns, Police and Geospatial Analysis: St. Petersburg, Florida*. Graduate Spring 2012.

Thesis/Dissertation Committee Member

1. Dr. C. Keller - dissertation committee (Dept. of Biology, USF Tampa) Title: *'Status of Gopher tortoise population in central Florida.'* A major component of her dissertation is remote sensing (image classification of Landsat TM Data). Graduated 2005.
2. Ms. N. Candade – thesis committee (Dept. of Biomedical Engineering, USF). Title: *Application of SVM and NN in Digital Image Processing: A comparative study*. Graduated

2004

3. Ms. S. Saleem - thesis committee (College of Marine Sciences, USF Tampa). *Title: Geomorphology of Submarine Springs West of Ft. Myers, Florida*. Graduated 2007
4. Mr. James Banning – thesis committee (Department of Environmental Science, Policy and Geography). *Title: Assessing the Effectiveness of the Roaring Branch BMP Retrofit Using Macroinvertebrate Bioassessment*, Graduated Spring 2010
5. Ms. Karen L. Dreger - thesis committee (Department of Environmental Science, Policy and Geography). *The Use of Unmanned Surface Vehicles for Seagrass Mapping*, Graduated Summer 2010
6. Mr. Kyle Buck - thesis committee (Department of Environmental Science, Policy and Geography). *Assessment of Environmental and Social Factors in Cancer Risk among Teens*. Graduated Spring 2011.
7. Ms. Lauren Bates- thesis committee (Department of Environmental Science, Policy and Geography). *Understanding Environmental Deficit Phenomenon: Influences Affecting Children's Perceptions of Connectedness to Nature*. Graduated Fall, 2011
8. Dr. Marilyn Montgomery – dissertation committee (Dept of Geography, Environment and Planning, USF Tampa), *Assessing the Environmental Justice Implications of Flood Hazards in Northwest Florida*. Graduated Summer 2014.
9. Ms. Kristen Emrich - thesis committee (Department of Environmental Science, Policy and Geography). *Assessing the impact of untreated sewage on the coral reef system off the coast of Caye Caulker, Belize: Applying the Foram Index*. Graduated Fall 2014
10. Mr. Mustafa Ustuner – thesis committee (Department of Geomatic Engineering, Yıldız Technical University, Esenler Istanbul, Turkey), *LULC mapping of Turkey using SVM, ANN and MCL*. Graduated Spring 2015
11. Ms. Lindsey Schmidt- thesis committee (Department of Environmental Science, Policy and Geography). *Assessing the potential effects of persistent organic pollutants on temporal mangal distribution in Jobos Bay, Puerto Rico*, Graduated Spring 2017
12. Mr. Rene Baumstrak - dissertation committee (Dept of Geography, Environment and Planning, USF Tampa), *Seagrass habitat mapping and characterization in Southwest Florida using advanced remote sensing and spatial analysis techniques*, Graduated Spring 2018
13. Mr. Elham Fijani – dissertation committee (Department of Geology, University of Tabriz, East Azarbaijan, Iran). *Optimization of Groundwater Vulnerability Assessment in Maragheh-Bonab Plain Aquifer, Iran*
14. Mr. Adabayo Solanke - thesis committee (MS Environmental Science and Policy). *Measurement of Levels of Organophosphate Flame Retardants (OPFRs) in Indoor Dust in the Tampa Bay Area*, Graduated Fall 2017.
15. Ms. Kelly McKena. thesis committee (MS Environmental Science and Policy). *Adult Environmental Education: Active versus Passive Pedagogy*. Graduated Spring 2020.

16. Mr. Cole Hill – thesis committee (Department of Computer Science and Engineering). Small Object Detection in Satellite Images: Monitoring the Economic Response to the COVID-19 Pandemic Graduated spring 2021
17. Md Zakaria Salim. - Thesis committee (MA in Geography). Socio-Economic Disparities of Property Damage in Hurricane Ian. Graduated Summer 2024
18. Linden Cheek – Dissertation committee (PhD in Environmental Engineering Department of Civil and Environmental Engineering) Innovative Approaches to Coastal Resilience: Case Studies on Nature-Based Solutions. In Progress

Publications

Text Book/Book

1. **Dixon, B.** and Uddameri, V. 2016. GIS and Geocomputation for Water Resources Science and Engineering. John Wiley & Sons. 1st Edition Jan, 2016, 504p ISBN 978-1-118-35414-8
2. Samui, P, **Dixon, B** and B. T Die (Editors). 2021. Basics of computational geophysics. Elsevier Publishing <https://www.elsevier.com/books/basics-of-computational-geophysics/samui/978-0-12-820513-6>
3. **Dixon, B.** (2025) Interdisciplinary Environmental Solutions: Using geospatial technologies for bridging disciplines, scale and data. Springer International Publishing (in press)

Journal Publications

1. Meirose III, L¹, **Dixon, B.**, & Brown, C. A. 2024. Next to or through your house?: Comparison of statistical and spatial results to understand the effects of DEM resolution on stream delineation. *Journal of Hydrology*, 130976.
2. Alegria, H. **Dixon, B.** R. Johns, A. Collarusso, and M. Hancock. 2024. Using a smart city framework to advance justice: applying an equity lens to compare air quality in neighbourhoods of different socioeconomic profiles. [Local Environment]. 10.1080/13549839.2024.2360729
3. Salim, M. Z[#], Qiang, Y., **Dixon, B.**, & Collins, J. 2024. A Disparate Disaster: Spatial Patterns of Building Damage Caused by Hurricane Ian and Associated Socio-Economic Factors. *Remote Sensing*, 16(20), 3792.

¹ graduate student

4. Dalkilic, H.Y., Kumar, D., Samui, P. **B. Dixon** et al. 2023. Application of deep learning approaches to predict monthly stream flows. *Environ Monit Assess* 195, 705n. <https://doi.org/10.1007/s10661-023-11331-5>
5. R. Johns, **Dixon. B** and M. Vierra*. 2023. Police Violence as Containment of Black Bodies during Urban Renewal: a spatial analysis of civilian deaths by police in Florida". *Southeastern Geographer*, Volume 63, Number 4, Winter 2023 * undergraduate student
6. McKenna, K¹, Johns, and **B. Dixon**. 2022. Evaluating Forms of Engagement in Adult Environmental Education in Florida, *The Florida Geographer*. Vol. 53 No. 1 (2022): Winter
7. **Dixon, B.**, R. Johns and A. Fernandez*. 2021. The role of crowdsourced data, participatory decision-making and mapping of flood-related events . *Applied Geography*, Volume 128, 102393, ISSN 0143-6228, <https://doi.org/10.1016/j.apgeog.2021.102393>. *undergraduate Student
8. Bordbar, M., Neshat, A. , Javadi, S, Pradhan, **Dixon, B.** and S. Paryani. 2021 Improving the Coastal Aquifers' Vulnerability assessment using SCMAI ensemble of three machine learning approaches. *Natural Hazards* <https://doi.org/10.1007/s11069-021-05013-z>
9. Haghbin, M²1, Sharafati A., **B. Dixon**, and V. Kumar. 2020. A State of the Art: Application of Soft Computing Methods for Appraisal of Groundwater Vulnerability and Nitrate Contamination, Past Trends and Future Opportunities. *Archives of Computational Methods in Engineering*. <https://link.springer.com/article/10.1007/s11831-020-09513-2>
10. Johns, R. A. **Dixon, B** and R. Pontes¹. 2020. Tale of Two Neighborhoods: Biophysical and Socio-Economic Vulnerability to Climate Change in Pinellas County, Florida. *Local Environment: the International Journal of Justice and Sustainability*. 25(9): 697-924. <https://doi.org/10.1080/13549839.2020.1825356>
11. Flanagan K¹, T., **Dixon, B**, Riverynark, T*, and D. Griffin. 2019. Analysis of the impacts of septic systems on the Florida coast using a GIS. *Physical Geography*. <https://doi.org/10.1080/02723646.2019.1671297> * undergraduate student
12. Pruden, J¹, R. Mbatu, R. Johns and **B. Dixon**. 2017. Measuring conservation success beyond the traditional biological criteria: Case of conservation projects in Costa Rica, Mekong Valley, and Cameroon. *Natural Resources Forum*. 10.1111/1477-8947.12132
13. Douglas S¹. **B. Dixon** and D. Griffin. 2017. Assessing Intrinsic and Specific Vulnerability Models Ability to Predict Groundwater Vulnerability to Groups of Similar Pesticides: a Comparative Study. *Physical Geography*. 10.1080/02723646.2017.1406300.
14. Naghibi, S. A., H. R. Pourghasemi and **B. Dixon**. 2016. A comparative assessment between classification and regression tree, random forest and boosted regression tree data mining models for groundwater spring potential mapping in the Koohrang Watershed, Iran. *Environmental Monitoring and Assessment* 188(1):1 – 27.
15. MouLeong T, Ficklin D. L, **Dixon, B.** Ab Latif Ibrahim and Zulkifli Yusop. 2015. Impacts

- of DEM resolution, source and resampling technique on SWAT-simulated streamflow. *Applied Geography Journal*. 63: 357-368
<http://www.sciencedirect.com/science/article/pii/S0143622815001794>
16. Üstüner, M²., F. Balık Şanlı, and **B. Dixon**. 2015. Application of Support Vector Machines for Landuse Classification Using High-Resolution RapidEye Images: A sensitivity Analysis. *European Journal of Remote Sensing*. 48:403-422
<http://www.tandfonline.com/doi/abs/10.5721/EuJRS20154823>
 17. Baumstark, R¹, **Dixon B.**, Carlson P., Palandro, D., and K. Kolasa. 2013. Alternative spatially enhanced integrative techniques for mapping seagrass in Florida's marine ecosystem. *International Journal of Remote Sensing*. 34(4), 1248–1264.
 18. Fijani E., Moghaddam A. A. Tsai, Frank T.C. Nadiri, A., and **B. Dixon**. 2013. Optimization of DRASTIC Model by Supervised Committee Machine Artificial Intelligence for Groundwater Vulnerability Assessment in Maragheh-Bonab Plain Aquifer, Iran. *Journal of Hydrology*. 503:89-100
 19. Johns, R, **Dixon, B.**, and C. McHan¹ . 2013. Evaluating Food Desert in Saint Petersburg. *The Florida Geographer*. Volume 44:15 - 37 (ISSN: 0739-0041).
 20. Casper, F²., **B. Dixon**, Steimle, E.T, Hall, M.L, and R.N. Conmy. 2012. Scales of heterogeneity of water quality in rivers: Insights from high resolution maps based on integrated geospatial, sensor and ROV technologies. *Applied Geography*. 32(2): 455 – 464.
 21. **Dixon, B** and Earls, J. 2012. Effects of Urbanization on Streamflow Using SWAT with Real and Simulated Meteorological Data. *Applied Geography Journal*. 35(1): 174-190
 22. Casper A.F. ¹**B. Dixon**, J. Earls, and J.A. Gore. 2011. Linking a spatially explicit watershed model (SWAT) with an in-stream fish habitat model (PHABSIM): A case study of setting minimum flows and levels in a low gradient, sub-tropical river. *Rivers Research and Applications*. 27(3):269-282 (DOI: 10.1002/rra.1355, 2010, Feb, 1st)
 23. Williams, N¹., **B. Dixon** and A. J. Pyrtle. 2011. Estimating Soil Loss from Two Coastal Watersheds in Puerto Rico with RUSLE. *Interdisciplinary Environmental Review (IER)* 1(4) 108 - 127.
 24. Samui, P². and **Dixon B.** 2011. Application of Support Vector Machine and Relevance Vector Machine to Determine Evaporative losses in reservoir. *Hydrological Processes*. Volume 26, Issue 9, pages 1361–1369. (DOI: 10.1002/hyp.8278, Sep8, 2011)
 25. **Dixon, B.** 2009. A Case Study Using SVM, NN and Logistic Regression in a GIS to Predict Wells Contaminated with Nitrate-N. *Hydrogeology Journal*. 17:1507 – 1520.
 26. **Dixon, B.** and Earls, J¹. 2009. Resample or not?! Effects of Resolution of DEMs In Watershed Modeling. *Hydrological Processes*. 23(12): 1714 – 1724.
 27. **Dixon, B.** and Candade, N. 2008. Multispectral landuse classification using neural networks and support vector machines: one or the other or both? *International Journal of Remote Sensing*. 29(4) 1185 - 1206.
 28. J. Earls¹ and **Dixon B.** 2008. A Comparison of SWAT Model-Predicted Potential

- Evapotranspiration: Using Real and Modeled Meteorological Data. *Vadose Zone Journal: Special issue paper. Multiscale Mapping: Physical Concepts and Mathematical Techniques*. Soil Science Society of America. 7(2):570–580
29. Earls, J¹. and **Dixon, B.** 2008. Using the Fractal Dimension to Differentiate Between Natural & Artificial Wetlands. *Interdisciplinary Environmental Review (IER), Vol. X, (no. 1): 33-44.*
 30. **B. Dixon** and Earls, J¹. 2007. Examining Spatio-Temporal Relationships of landuse change, population growth and water quality in the SWFWMD. *Interdisciplinary Environmental Review (IER). Vol. IX (no.11) :71 - 93.*
 31. **Dixon, B.** Li D., Earls, J¹ and Xinhua Liu. 2007. The Study on Groundwater Vulnerability Assessment Method. *Environmental Protection Science*. 33 (5):50 - 55.
 32. **Dixon, B.** 2005. Ground water vulnerability mapping: a GIS and fuzzy rule based integrated tool. *Journal of Applied Geography*. 25: 327 – 347.
 33. **Dixon, B.** 2005. Applicability of Neuro-fuzzy techniques in predicting ground water vulnerability: A sensitivity analysis. *Journal of Hydrology*. 309: 17 – 38
 34. **Dixon, B.** 2004. Prediction of Ground Water Vulnerability using an integrated GIS-based neuro-fuzzy techniques. *Journal of Spatial Hydrology*. 4(2):1 – 38
 35. **Dixon, B.**, H.D. Scott, J.C. Dixon, and K.F. Steele. 2002. Prediction of Aquifer Vulnerability to Pesticides Using Fuzzy Rule-Based Models at the Regional Scale. *Physical Geography* 23:130 - 152.
 36. **Mitra, B**³¹., H. D. Scott, J.C. Dixon and J.M. McKimmey. 1998. Application of fuzzy logic to the prediction of soils erosion in a large watershed. *Geoderma*. 86:183 - 209.

Edited Volume(s)/ Peer Reviewed Conference Proceedings Papers

1. Colarusso, A and **Dixon B.** 2025. An Assessment of Potential Environmental Impacts of Climate Change and Sea Level Rise on Decentralized Waste Water Treatment Infrastructures: A Broward County Case Study, FL, USA In: *Climate Change Effects on Infrastructure* Eds: GuhaRay A, Samui P., Asteris, P.G. Armaghani, D. J and Kumar S. Elsevier (in press)
2. **B. Dixon** and R. Johns. 2019. Vision for a Holistic Smart City (HSC)- Integrating Resiliency Framework via Crowdsourced Community Resiliency Information System (CRIS). ACM ISBN 978-1-4503-6954-1/19/11 <https://doi.org/10.1145/3356395.3365541>
3. King, C, and **B. Dixon.** 2011. Integrating Virulo model and virus parameters in mapping ground water contamination risk to pathogens. Vol. 34, pages 267 - 275. In (**Jay. Lee, Editor**). *Papers of The Applied Geography Conferences*. Redlands, CA.
4. Williams, N.B, **B. Dixon** and A. Johnson. 2010. Linking watersheds' hydrologic response

31 My former last name

- to sediment delivery: A conceptual framework. In (*Garcia, Pedro M. Editor*). International Specialty Conference and 8th Caribbean Islands Water Resources Congress on Tropical Hydrology and Sustainable Water Resources in a Changing Climate Proceedings. American Water Resources Association Technical Publication, Middleburg, Virginia, TPS-10-2, CD-ROM. ISBN 1-882132-83-1
5. **Dixon, B**, Earls, J. A. F. Casper, J. A Gore. 2009. Integrating Spatially Explicit Watershed Models With In-Stream Habitat Models: A Discussion on Constraints With Regard to the Resolution of Data. AWRA Spring Specialty Conference: Managing Water Resources and Development in a Changing Climate. Paper in AWRA conference CD. May 4 – 6th Anchorage, Alaska.
<http://www.awra.org/tools/members/Proceedings/0905conference/oral.html>
 6. **Dixon, B** and Earls J. 2008. An estimation of Regional Soils Erosion Vulnerability using RUSLE-V. Papers of IASTED International Conference on Applied Simulation and Modeling. Corfu, Greece, June 23rd – 25th.
 7. Earls, J. **B. Dixon** and Fred Bradley¹. 2008. Comparing SWAT overall drainage basin predictions with individual sub-basin predictions. Spring Specialty Conference GIS and Water Resources V. San Mateo, CA, Mar 17-19, 2008. *Paper on Conference CD AWRA*.
 8. Earls, J and **B. Dixon**. 2007. Application of the Soil and Water Assessment Tool (SWAT) in modeling the effects of landuse change on watershed hydrology. Vol. 30, pages 541-522. In (**L. Harrington & J. Harrington, Jr, eds.**). Papers of The Applied Geography Conferences. Indianapolis, IN.
 9. Earls, J and **B. Dixon**. 2007. Spatial Interpolation of Rainfall Data Using ArcGIS: A Comparative Study. 27th Annual ESRI International User Conference.
http://www10.giscale.com/link/display_detail.php?link_id=22230. San Diego, June 18-22, 2007.
 10. A.F. Casper, M.L. Hall, **B. Dixon** and E.T. Steimle. 2007. Combining Data Collection from Unmanned Surface Vehicles with Geospatial Analysis: Tools for Improving Surface Water Sampling, Monitoring, and Assessment. Proceedings of OCEANS 2007 MTS/IEEE Vancouver. 2007 ISBN CD-ROM: 0-933957-35-1, Vancouver, British Columbia. September 29 – October 4
 11. Earls¹ J., N. Candade and **B. Dixon**. 2006. A Comparative Study of Landsat 5 TM Landuse Classification Methods including Unsupervised Classification, Neural Network and Support Vector Machine for Use in a Simple Hydrologic Budget Model. ASPRS Annual Conference - Prospecting for Geospatial Information Integration – Reno, NV - May 1-5.
 12. Earls J and **Dixon, B**. 2006 The Influence of Resolution on the SWAT Model: Examining Neighboring Basins. In (**Maidment, David R. and John S. Grounds III, eds.**). GIS and Water Resources IV. Proceedings of the American Water Resources Association's 2006 Spring Specialty Conference. American Water Resources Association, Middleburg, Virginia, TPS-06-1, CD-ROM. ISBN 1-882132-70-X
 13. Earls, J and **Dixon, B**. 2006. Comparison of annual calibration of SWAT model at differing resolutions. In (**Mark Colosimo & Donald F. Potts, eds.**). Adaptive Management of Water

- Resources. AWRA Summer Specialty Conference MT, June 26-28. ISBN: 1-882132-71-8.
14. Earls, J. and **Dixon, B.** 2005. Calculation of Evapotranspiration and Hydrologic budget from Landsat TM derived landuse maps for two unique drainage basins. Vol. 28, pages 413-422. In (**G. A. Tobin and B. E. Montz, eds.**). Papers of the Applied Geography Conferences. Washington D.C.
 15. **Dixon, B.** and Candade, N. 2004. Comparison of Neural Network and Neuro-fuzzy Techniques in Ground Water Vulnerability Mapping: A Case Study. Pages 1 – 10. In (**Kenneth J. Lanfear and David R. Maidment, eds.**) AWRA's 2004 Spring Specialty Conference "Geographic Information Systems (GIS) and Water Resources III." American Water Resources Association, Middleburg, Virginia, TPS-04-1, CD-ROM.
 16. Candade, N and **Dixon, B.** 2004. Multispectral classification of Landsat images: Comparison of Support Vector Machine and Neural Network classifiers. Presentation. ASPRS Annual Meeting. Denver, May 2004. Mira Digital Publishing. Bethesda, Maryland. ISBN 1-57083-072-X.
 17. **Dixon, B.** 2003. Can contamination potential of ground water to pesticides be identified from hydrogeological parameters? Vol. 26, pages 237 – 247. In (**B. E. Montz and G. A. Tobin, eds.**) Papers and Proceedings of The Applied Geography Conferences. University of Colorado at Colorado Springs, Colorado Springs, Co.
 18. **Dixon, B.** 2002. Can ground water sampling strategy be improved by incorporating fuzzy logic in a GIS? Vol. 25, Pages 254 – 264. In (**B. E. Montz and G. A. Tobin, eds.**) Papers and Proceedings of The Applied Geography Conferences. Binghamton University, Binghamton, NY.

Book Chapters or Invited Paper

1. Brown, C.A., H. N. Hansen, X. J. Jiang, F. Blateyron, J. Berglund, N. Senin, T. Bartkowiak, , **B. Dixon**, , G. L. Goïc, , Y. Quinsat, E. Savio, W. J. Stemp, M. K. Thompson, P. S. Ungar, E. H. Zahouani. (2018). Multiscale analyses and characterizations of surface to topographies. CIRP Annals Manufacturing Technology. (<https://doi.org/10.1016/j.cirp.2018.06.001>) *Invited Paper*
2. Jagan J, Samui, P and **B. Dixon**. (2016). Determination of rate of medical waster generation using RVM, MARs and MPMR. In (Ulas Akkucuk, Ed.) Handbook of Research on Waste Management Techniques for Sustainability. IGI Global. Pages 1- 18 DOI: 10.4018/978-1-4666-9723-2.ch001.
3. Samui, P. and **Dixon B.** 2014. Determination of Contaminated Wells: A Relevance Vector Machine Approach. Journal of Urban and Environmental Engineering (JUEE) 8 (2): 243-249. <http://periodicos.ufpb.br/ojs2/index.php/juee/article/view/20261/pdf> *Invited Paper*
4. Williams, N. B., **B. Dixon** and A. Johnson. 2010. Developing a conceptual framework for linking soil erosion to sediment deposition: Patterns in coastal ecosystems in the Caribbean. IMPACT 20 (4):15-16 *Invited Paper*
5. Li, D, **Dixon, B.**, Earls, J. F. Bradley and Xinghua, Liu. 2007. The Study on Vulnerability

- Assessment in Groundwater Recharge Area of Jinan. Environmental Protection, 378(8B):59 – 61. Environmental Protection of China Press. *Invited Paper*
6. Earls, J. and **Dixon, B.** 2005. A comparative study of the effects of input resolution on the SWAT model. Pages 213 – 222. In (C. A. Brebbia, and J. S. Antunes do Carmo eds.) River Basin Management III. WIT Press, Southampton, UK.
 7. **Dixon, B.** 2004. Can an integrated ground water vulnerability mapping tool facilitate sensitivity analysis in a spatial domain?? In (J. F. Martin-Daque; C. A. Brebbia; A. e. Godfrey and J.R. Diaz de Teran eds.) Geo Environment. WIT Press, Southampton, UK.
 8. **Dixon, B.** 2002. Application of Neuro-Fuzzy techniques to predict ground water vulnerability. Pages 485 – 495. In (C. A. Brebbia, ed.) Risk Analysis III. WIT Press, Southampton, UK.
 9. **Mitra, B.**, J. M. McKimmey and H. D. Scott. 1997. Development and use of digital databases in agricultural research. Trends in Agronomy, 1:1-17.
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Monographs

1. J. M. McKimmey, **B. Dixon**, H.D. Scott and C. M. Scarlat. 2002. Soils of Mississippi County, Arkansas. Special report series. Arkansas Agricultural Experiment Station. Pub # 970. University of Arkansas, Fayetteville.
 2. **Dixon, B.**, T. H. Udouj, H. D. Scott, R. L. Johnson and J.M. McKimmey. 2001. Soils of Randolph County, Arkansas. Special report series. Arkansas Agricultural Experiment Station. Pub. # 199. University of Arkansas, Fayetteville.
 3. **Dixon, B.**, T. H. Udouj, H. D. Scott, and J.M. McKimmey. 2001. Soils of Clay County, Arkansas. Special report series. Arkansas Agricultural Experiment Station. Pub # 202. University of Arkansas, Fayetteville.
 4. Johnson, R.L., **B. Dixon**, H. D. Scott, J.M. McKimmey and T.H. Udouj. 1999. Soils of Jackson County, Arkansas. Special report series. Arkansas Agricultural Experiment Station. Pub. # 192. University of Arkansas, Fayetteville.
 5. Scott, H.D., **B. Dixon**, J.M. McKimmey, T. H. Udouj and R. L. Johnson. 1998. Soil of Desha County, Arkansas. Special report series. Arkansas Agricultural Experiment Station. Pub. # 187. University of Arkansas, Fayetteville.
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Technical Reports and Other publications

1. **Dixon B** and R. Johns. 2020. Final Project Report on Community Resiliency Information System (CRIS). AT&T Foundation Community Resiliency Grant. 66 pages
2. **Dixon B.** 2017. Project Progress report for project titled 'Mapping Controlled Burns with Georeferenced, Full-Motion Video, and Infrared Video'. Seminole Tribe

3. **Dixon B.** 2016. Project Completion report for project titled ‘Mapping of spatio-temporal variation of landcover-change within the Reservation’. Seminole Tribe. 80 pages
4. **Dixon, B.** John Osegovic and Kristen Emrich. 2016. Review report for graduate program. 150 pages excluding appendices
5. **Dixon, B.** John Osegovic and Kristen Emrich. 2015. Review report for undergraduate program, 98 pages excluding appendices
6. **Dixon, B.** Armando Hoare and Melanie R-Withmore. 2011. Review report for the graduate program (External review report). 233 p (excluding appendices)
7. **Dixon, B.** 2009. Existing methods of Nitrate Monitoring. Report completed for Harmonic Nitrate Monitoring. 64 p.
8. **Dixon, B.** 2008. Applicability of the SWAT model to quantify the effects of urbanization on the water budget for the Charlie Creek watershed. USGS Final report. 32 p.
9. **Dixon, B.** 2008. Identifying Potential Watershed Nutrient Links to *Karenia* Red Tides: Integrated GIS Watershed Characterization of a southwest Florida coastal counties. FWRI Final report. 25 p.
10. Earls J. and **Dixon, B.** 2007. Methodology for Sensitivity Analysis of the SWAT Model to the Resolution of Input, Calibration and Validation of Data. USFSRG Completion Report. 15 p.
11. **Dixon, B.** 2006. Ground Water Vulnerability Delineation Using Integrated GIS and Neuro-Fuzzy Methods. FWRRC Completion Report. 30 p. Subcontract UF-EIES-0404012-USF (3/1/04 - 2/28/05).
12. **Dixon, B.** H. D. Scott and A. M. Mauromoustakos. 2005. Ground Water Vulnerability Delineation Using Neural Networks, Fuzzy Logic, and Neuro-Fuzzy Techniques: Arkansas. USDA- CSREES Completion report 115 p.
13. **Dixon B.** 2004. Application of Neural Networks and Neuro-Fuzzy Methods to Ground Water Vulnerability Mapping: A GIS-based Integrated Approach in Hillsborough County. Funded by FL. Dept. of Environmental protection, FL. Completion report 75 p.
14. Leung, C. and **Dixon, B.** 2003. Pre-schoolers’ vocabulary acquisition and understanding of scientific concepts from participation in repeated read aloud events involving informational picture books. Juvenile Welfare Board of Pinellas County and USF. 62 p. Collaborative for Children Families and Communities: Completion Report. 62 p.
14. **Dixon, B.** and H. D. Scott. 2001. Application of fuzzy logic to predict ground water vulnerability in Northwest Arkansas. AWRC-USGS Completion Report, MSC # 240
15. **Dixon, B.** and H. D. Scott. 1998. Use of fuzzy logic with modified DRASTIC parameters to predict ground water contamination. In (H. D. Scott, ed.) Vulnerability and use of ground and surface waters in the southern Mississippi valley region. AWRC Completion Report No. 269, 16 – 51.

Invited Speaker

- i. **B. Dixon.** 2024. Stakeholder Perspective of Local Societal Needs. [2024 USCRP Decadal Visioning Workshop](#). US Coastal Research Program (USCRP) – June 11th, 2024
- ii. **B. Dixon.** 2024. CRIS-HAZARD: A Tool for Community Engagement and Crowdsourced Data Collection to Enhance Resilience in the Face of Flooding and Other Extreme Events. NSF S&CC Annual PI Meeting, Feb 28-29, Nashville, TN. Panelist: **Citizen science session**
- iii. **B. Dixon.** 2019. Innovative and integrative Modelling of Land - Water Interfaces Under Climate Change. Thailand Space Week, Bangkok, Thailand, Aug 27-28th, 2019. [This was part of Fulbright Specialist program.](#)
- iv. **B. Dixon.** 2019. **Coastal Adaptation, Resilience & Disaster Response** : role of geospatial technologies in customizable and scalable solution. GISTDA, Bangkok, Thailand. Aug, 22, 2019. [This was part of Fulbright Specialist program.](#)
- v. **B. Dixon,** 2019. Socio-economic marginalization, participation in governance and resiliency: a flooding related case study. [NSF funded Workshop on Community Geography, University of Georgia, Jan 25 -26, Atlanta, GA](#)
- vi. **B. Dixon.** 2018. Interdisciplinary application of geospatial technologies for water resources modeling under climate change to enhance planning, adaption and resilience. [Geography Seminar](#), VVBS Bharati University, Santiniketan, India Dec. 4th
- vii. **B. Dixon.** 2018. Coastal adaptation, resilience and planning using crowd-sourced data and information: A case Study of SeeClickFix Apps in Pinellas. [Annual Workshop, Civil Engineering Department. NIT Patna, India, Dec 7th.](#)
- viii. **B. Dixon.** 2018. Rising together: thoughts on climate change, coastal resilience and adaptation. [TEDxYouth@ShengjingRoad](#). Event theme Hello Future!, Shenyang, China, Sep, 1st.
- ix. **B. Dixon.** 2018. Key Findings: Solutions for Resilience and Adaptations in Tampa Bay!, [Unitarian Universalist United Fellowship. St. Petersburg, August, 19](#)
- x. **B. Dixon.** 2018. Mapping Biophysical and Social Vulnerability in Pinellas County, Florida Frank, E. Duckwall Lecture series: [Assessing Climate Resilience through Community Engagement in the Tampa Bay Region](#). St. Petersburg, April 23.
- xi. **B. Dixon.** 2017. DEMs: Effects of Resolutions on Terrain Analysis, Watershed Delineation and Stream Reaches. ASME B46 Standards Committee. Session: [Classification and Designation of Surface Qualities](#). Tampa. May 5th
- xii. **B. Dixon** and V. Uddameri. 2016. GIS-based Integrated Modeling Approach: DRASTIC, Fuzzy Logic and Logistic Regression. [International Conference on Water and Environment](#). Shanghai, China, July 23-26
- xiii. **B. Dixon.** 2015. Integration of AI with Geospatial Technologies. [Center for disaster mitigation and management, VIT, India, Feb 24-27](#)
- xiv. Williams, N¹. **B. Dixon** and A. Johnson. 2012. Linking Soil Loss to Sediment Delivery in the Jobos Bay Estuary, Puerto Rico. [National Estuarine Research Reserve System](#)

£ Former PhD student – this is based on the work she did under my co-supervision.

- ([NERRS](#)). NOAA's Estuarine Reserves Division and the National Estuarine Research Reserve Association (NERRA). Shepherdstown, WV. Nov 27 – 30.
- xv. **Dixon, B.** 2012. Statistical Regional modeling of nitrate in groundwater. Impacts of Excess Nitrogen in the Environment on Human Health: [RCN Human Health Conference](#). National Institutes of Health (NIH), North Bethesda. MD. Nov 14 – 15.
 - xvi. **Dixon, B.** 2012. Mapping the Tribes and the Terrain: Geospatial Analysis/Human Geography Consideration of Yemeni Tribes. [Tribal Dynamics III Yemen Workshop: USSOCOM's Interagency Task force](#). University of South Florida's Citizenship Initiative and the Center for the Study of International Languages and Cultures (CSILC). Tampa, FL, April 23-24,
 - xvii. **Dixon, B.** 2011. Decision Making, Sustainable Development and Water. [Downtown St. Pete Exchange Club Meeting](#). Yacht Club, St. Pete, August 25th.
 - xviii. **Dixon, B.** 2010. Clean water initiative in Africa! [Sunset Rotary of St. Petersburg](#), April 29th.
 - xix. **Dixon, B** and J. Earls. 2009. Integration of GIS for Infrastructure Management and Risk Analysis. ([Florida Planning and Zoning Association - FPZA](#)): Workshop on Urban Places/Rural Spaces: Planning For Tomorrow. Tampa, June 10 – 13.
 - xx. **Dixon, B** and J. Earls. 2008. Tutorial session: Introduction to Using the Soil Water Assessment Tool Model Integrated with ArcGIS 9 with Demonstration. [IASTED \(International Conference on Applied Simulation and Modeling\)](#). Corfu, Greece, June 23rd – 25th
 - xxi. **Dixon, B.** 2007. Fractal Dimension Analysis of Wetlands: a joint venture between applied mathematics and theoretical physics. [Applied Mathematics Summer Workshop](#) hosted by Applied Mathematics Research Center, sponsored by Department of Defense. August 24th – 26th. Dover, Delaware.
 - xxii. **Dixon, B.** 2007. Examination of the spatial relationship of soils, landuse and slopes to florescence data in selected watersheds: An integrated analysis with GIS. CDOM workshop. [Charlotte Harbor National Estuary Program](#). May 28 – 30th, Ft. Meyers, FL
 - xxiii. **Dixon, B.** 2006. Sensing Flow and Water Quality. Presented at [SWFWMD Workshop](#), Jan 26th 2006, Brooksville, FL
 - xxiv. Gore, J. **Dixon, B.**, and A. Casper. 2006. Assessing Florida's large rivers: GIS-based data-mining and the impacts of the Atlantic Multi-decadal Oscillation. [Great River Ecosystems Reference Condition Workshop](#), January 10-11, 2006, Cincinnati, OH.
 - xxv. **Dixon, B.** 2006. GIS application for Ground Water. Presented at the workshop hosted by [American Ground Water Trust](#). June, 2006, Arcadia, FL. Sponsored by USGS and American Ground Water Trust.
 - xxvi. **Dixon, B.** 2005. Sensing the Flow and Water Quality: How remote sensing and GIS can facilitate spatio-temporal modeling of interactions among hydrology, pollutant loading and habitat. Seeing the Big Picture Symposium, Sarasota, FL. Sponsored by [Mote Marine Aquarium & Laboratory](#) and EDC Sarasota County. September 15-16.

- xxvii. **Dixon, B.** and Earls, J. 2005. Mapping and Modeling: GIS and Remote Sensing Data Integration Issues. [Suwannee River Basin and Estuary Initiative](#) Second Annual Integrated Science Workshop Folkston, GA, June 28-29, 2005. Sponsored by [USGS](#).

Presentations at Professional Meetings and Abstracts

1. Colarusso, A., **Dixon, B.**, Yan, E. , and S. Covarubias. Use of Static Cameras to Predict Flood Height and Extent: A Comparison between Helene and Milton. American Association of Geographers Detroit, MI. March 24 - 29
2. **Dixon B.**, Zhu M. and S. Guhathakurta. 2025. Community Knowledge Matters? Reimagining Citizen Science in the Context of Smart and Resilient City for Community Engagement. American Association of Geographers Detroit, MI. March 24 - 29
3. Andrews, J., **Dixon B.**, Withlow, D. and S. Guhathakurta. 2025.Extraction of Flood Height using ML from Crowdsourced Photo using a Custom Flood App: Preliminary results. American Association of Geographers Detroit, MI. March 24 – 29
4. Colarusso, A. and **Dixon B.** 2025 Estimating Flood Impact, Residence Times, and Recession Rates using an Integrated Camera Monitoring Network and Digital Twin. Florida Society of Geographers Gainesville, Feb 21-23
5. Amponos A. C and **Dixon, B.** 2025. Machine Learning Applications Integrated with GIS for Flood Prediction. Florida Society of Geographers Gainesville, Feb 21-23. [Poster](#)
6. Licea M and **Dixon B.** 2025. Reimagining Vulnerability and Resilience at Neighborhood Level: Post Helene and Milton. Florida Society of Geographers Gainesville, Feb 21-23. [Poster](#)
7. **Dixon. B.** 2024. Exploring Spatial Variability of Community-Engaged Co-creation and Implementation of CRIS-Hazard to Drive Policy Decisions. 35th International Geographical Congress Dublin, Ireland, August 24 - 30
8. **Dixon. B.** 2024. Moving the Needle on Gender Equity in Academia: Tracking the Status of Women and Marginalized Groups in Geography. Panelist. American Association of Geographers Honolulu, HI. April 16 - 20
9. **Dixon. B** and S. Guhathakurta. 2024. From CRIS to CRIS-HAZARD - Development of a Near Real-Time Community Crowdsourced Resilience Information System for Enhancing Community Resilience – An overview of the conceptual framework. American Association of Geographers Honolulu, HI. April 16 - 20
10. Colarusso A. and **Dixon, B.** 2024. CRIS-Hazard: A Web-based platform for Integration of Near-real Time Camera Images via IOT to Aid Flood-related Resilience Planning. American Association of Geographers Honolulu, HI. April 16 – 20
11. Colarusso A. and **Dixon, B.** 2024. OSTDS Environmental Impacts Assisted By Arcnlet: A Broward County Case Study. Florida Society of Geographers Saint Augustine, Feb 16 - 18

12. **Dixon, B.** 2023. Panelist. Status of Women in Geography Panel “Revisiting the Status of Women in Geography Status of Women and Geography Panel. American Association of Geographers Denver, CO. March 23 - 27
13. **Dixon, B.** 2023. Geospatially Integrated IOT framework to advance justice: applying an equity lens to compare air quality at neighborhood-scale. American Association of Geographers Denver, CO. March 23 - 27
14. Colarusso A. and **Dixon, B.** 2023. MODFLOW or hydrostatic-bathtub models? Identifying OSTDS vulnerability using GIS-based MCDM . American Association of Geographers Denver, CO. March 23 – 27
15. Colarusso A and **Dixon, B.** 2023. Who Will be Impacted? Analysis of OSTDS failure due to Sea-Level Rise and other inundation factors: An integrated Geo-Spatial Analysis. Florida Society of Geographers, Saint Augustine, FL. Feb 17 – 19.
16. Laczko O., L. Shanley and **B. Dixon.** 2023. Updated Analysis of Food Deserts in St. Petersburg Using GIS Data Visualization as a Means of Recommending Policy Remedies. Florida Society of Geographers, Saint Augustine, FL. Feb 17 – 19. [Poster](#).
17. Cheek, L & **B. Dixon.** 2023. Equity of Access to Public Living Shorelines in Pinellas County: A GIS-Based Analysis. Poster Presentation]. AEESP 2023. Boston, MA, United States. June 20-23). [Poster](#).
18. Johns. R. and **B. Dixon.** 2022. Empowering Marginalized Communities for Climate Literacy, Justice and Resilience. Building Leadership for Environmental Literacy. NAAEE. Tucson AZ. Oct 12 – 15. [Poster](#).
19. Cheek, L., B. Dixon, and M. Trotz. 2022. Equity of Living Shoreline Access in Pinellas County: A GIS-Based Analysis. Coastal & Estuarine Summit, Hosted by Restore America's Estuaries. New Orleans, LA December 4-8. [Poster](#)
20. Colarusso A. and **B. Dixon.** 2021. Sea Level Rise, OSTDS Vulnerability Zones and Potential for Failure, and Environmental Impacts: A Coastal Watershed-Based Study. Annual Conference, American Water Resources Association, Virtual, Nov 7-10
21. **B. Dixon,** R. Johns and R. Pontes. 2020. Analyzing Public Responses from Qualitative Data through Spatial Distribution Analysis Utilizing GIS for Effective Resilience Planning. American Association of Geographers, Denver, CO. April 6 – 10 (virtual)
22. Spetka, M., Schrandt, M., & **Dixon, B.,** (2020, April). Fish habitat modeling: A comprehensive spatio-temporal analysis of Charlotte Harbor and Tampa Bay. American Association of Geographers, Denver, CO. April 6 - 10 (virtual).
23. Colarusso A. and **B. Dixon.** 2020. OSTDS density, pathogen, Isochlor, and Algal bloom - Is there a connection? American Association of Geographers Denver, CO. April 6 – 10 (virtual)
24. **Dixon, B.,** Johns, R., Colarusso, A., McClendon, C., & Spetka, M. 2020. Mapping Flood Risks and Solutions: A Geospatial Analysis Workshop for Middle and High School

- Students in Pinellas County, FL. Bay to Bay 5th Annual Learning Symposium, St. Petersburg, FL. Feb 14th
25. Spetka, M., & **Dixon, B.** 2020. Using habitat characterization methods in GIS to determine impacts of extreme weather events on estuarine fish habitat. Florida Society of Geographers, Gainesville, FL. Feb 7-9 (Best Graduate Presentation Award).
 26. **B. Dixon** and R. Johns. 2019. Vision for a Holistic Smart City (HSC)- Integrating Resiliency Framework via Crowdsourced Community Resiliency Information System (CRIS). 2nd International workshop on Advances in Resilient and Intelligent Cities (ARIC 2019), ACM SIGSPATIAL
 27. **B. Dixon**, R. Johns and A. Fernandez. 2019. An Empirical Assessment of efficacy of crowd-sourced data and participatory Geoweb in enhancing participation in governance for resiliency. American Association of Geographers, Washington D.C., April 4 - 7th.
 28. Meirose, L.¹, **B. Dixon**, Christopher A. Brown and Alvan Karlin. 2019. Next To or Through Your House?: Comparison of Statistical and Spatial Results to Understand the Effects of DEM Resolution on Stream Delineation. American Association of Geographers, Washington D.C., April 4 - 7th.
 29. Spetka M¹. and **B. Dixon**. 2019. A comparison of two GIS-based habitat characterization methods for juvenile gag (*Mycteroperca microlepis*): habitat suitability model vs ecological niche factor analysis. American Association of Geographers, Washington D.C., April 4 - 7th. [Poster](#)
 30. **B. Dixon**. 2018. Challenges and opportunities to bridge academia, practitioner, businesses and elected officials in the coastal adaptation and resilience initiatives. International Interdisciplinary Conference on Environment (IICE). Montreal, Canada, June 22-24
 31. **B. Dixon** and D. Griffin. 2018. Population Density, Septic Systems, Well Contamination and SLR: Rethinking Climate Resilience and Water Security, An Integrated GIS-based Approach. 1st International Conference on Water Security, Toronto, Canada, June 17 – 21. [Poster](#)
 32. Groom M¹, J. Ivey and **B. Dixon**. 2018. Integration and georeferencing of independent video images into ArcGIS using Full Motion Video. Florida Society of Geographers (FSG) Annual Meeting Melbourne, FL Feb 9 – 11. [Poster](#)
 33. McGrane C¹, Hunt, J.¹, **B. Dixon** and R. Johns. Mapping Flooding Reports in Pinellas County using Crowdsourced Data: A Preliminary Analysis. Florida Society of Geographers (FSG) Annual Meeting Melbourne, FL Feb 9 – 11. [Poster](#)
 34. Fernandez A¹ and **B. Dixon**. 2018. Evaluating the Effect of DEM Resolution on Soil Erosion Model Results. Florida Society of Geographers (FSG) Annual Meeting Melbourne, FL Feb 9 – 11. [Poster](#)
 35. Meirose L¹, **B. Dixon**. 2018. Fractals and Flow: Multiscale Analysis of the Effects of DEM Resolution on Fractal Complexity and Subsequent Modeled Streamflow. Florida Society of Geographers (FSG) Annual Meeting Melbourne, FL Feb 9 – 11.

1. Hunt, J¹, **B. Dixon** and R. Johns. 2018. "Tale of Neighborhoods: Comparison of Biophysical and Socioeconomic Vulnerability for Resiliency and Adaptation. American Association of Geographers. New Orleans, LA. April 10th – 14th. [Poster](#)
36. Groom M¹, **B. Dixon**, L. Meirose and K. Flanagan. 2018. Effects of DEM Resolution in Delineating Streams Using SWAT: Sensitivity Analysis. American Association of Geographers. New Orleans, LA. April 10th – 14th
37. Meirose L¹, **B. Dixon** and C. Brown. 2018. Multiscale Analysis of the Effects of DEM Resolution on Fractal Complexity and Subsequent Flow Direction, Accumulation and Stream Definition. American Association of Geographers. New Orleans, LA. April 10th – 14th
38. Fernandez A¹ and **B. Dixon**. 2018. The Impact of Wildfire on Soil Erosion using a GIS-integrated RUSLE Model and the Effect of DEM Resolution on Model Results. American Association of Geographers. New Orleans, LA. April 10th – 14th. [Poster](#)
39. Flanagan K¹, and **B. Dixon**. 2018. Tale of Two Watersheds, Urbanization: The Impact of Changing Watersheds on Water Quality of Coastal MPAs using SWAT. American Association of Geographers. New Orleans, LA. April 10th – 14th .
40. Flanagan K¹, **B. Dixon** and D. Griffin. 2018. A Spatial-temporal Analysis of Septic Tanks and Environmental Factors and their Relationships with Nutrient Loading, Pathogen Contamination, and Beach Closures. American Association of Geographers. New Orleans, LA. April 10th – 14th .
41. Johns R. and **B. Dixon**. 2017. Preliminary Results: Listening to communities regarding climate change resilience. Social Aspects of Resilience: identifying key areas of social vulnerability and enhancing resilience – iCAR Phase III. St. Petersburg, FL. Oct 4 – 5, 2017
42. Flanagan K¹ and **B. Dixon**. 2017. Integration of Terrestrial Source in MPA Management. Society for Conservation GIS. Monterey CA. July 17 – 19.
43. Flanagan¹ K. and **B. Dixon** 2017. Integration of Terrestrial Source, Landuse, and Watershed Hydrogeology in MPA. Management using SWAT. American Association of Geographers. Boston, MA. April 5th – 9th.
44. Rivenbark¹ T., **B. Dixon**, and C. Stallings. 2017. Cost-effectiveness of integrated GIS and remote sensing seagrass landscape characterization methods. American Association of Geographers. Boston, MA. April 5th – 9th.
45. Rivenbark¹ T., **B. Dixon**, and D. Griffin. 2017. Analysis of contamination from septic systems in coastal water of Florida using GIS data. American Association of Geographers. Boston, MA. April 5th – 9th.
46. Meirose, L¹, **B. Dixon** and C. Brown. 2017. Examining the Effects of DEM Resolution and Fractal Dimension on Slope Characterization and Soil Erosion in the Rio Fajardo Watershed, Puerto Rico. American Association of Geographers. Boston, MA. April 5th – 9th. [Poster](#)
47. McGrane, C and **B. Dixon**. 2017. Pinellas County Environmental Justice Analysis. American Association of Geographers. Boston, MA. April 5th – 9th. [Poster](#)

¹ Student

48. Lyons K.¹ and **B. Dixon**. 2016. Evaluating the Effects of Precipitation Extremes on Watershed Hydrology Under Current and Projected Future Climate Conditions Using SWAT. American Association of Geographers. San Francisco, CA. March 29 – April 2.
49. Flanagan, K. and **B. Dixon**. 2016. Rethinking MPA: Integration of Watershed Urbanization. American Association of Geographers. San Francisco, CA. March 29 – April 2.
50. Cope, S and **B. Dixon**. 2016. Integration of GIS and logistic regression to develop a habitat suitability model for predicting seagrass distribution. American Association of Geographers. San Francisco, CA. March 29 – April 2.
51. Rivenbark T, **B. Dixon** and C. Stallings. 2016. Integrated GIS and Remotely Sensed Method: A comparison of cost and accuracy for sea grass mapping. American Association of Geographers. San Francisco, CA. March 29 – April 2. [Poster](#)
52. Douglas S¹. and **B. Dixon**. 2015. Mapping of Groundwater Vulnerability Using Spatially Integrated Pesticide Attenuation Factor. American Association of Geographers. Chicago, IL. April 21 – 25.
53. Merton E¹ and **B. Dixon**. 2015. Analyzing the edge-effect: applying fractal analysis to mitigated wetlands in Tampa Bay, Florida. American Association of Geographers. Chicago, IL. April 21 – 25.
54. Lyons K.¹ and **B. Dixon**. 2015. Modifying the Revised Universal Soil Loss Equation (RUSLE) R and LS factors to identify soil erosion ‘hot spots’ in the Rio Fajardo watershed. American Association of Geographers. Chicago, IL. April 21 – 25.
55. Terrano¹J. D. Stewart, **B Dixon**. 2015. Determining Power Plant and Population Vulnerability to Storm Surges in Pinellas and Pasco County: A GIS Based Approach. 51st Annual FSG Meeting, Jacksonville, FL, Feb 6-8 [Poster](#)
56. Merton E¹ and **B. Dixon**. 2014. Location of mitigated and natural wetlands: an environmental variable analysis. SouthEastern Division of American Association of Geographers (SEEDAG). Athens, GA. Nov 23 – 25.
57. Lyons K¹ and **B. Dixon**. 2014. It’s all downhill from here! The effect of DEM resolution on modeling soil erosion risk potential. SouthEastern Division of American Association of Geographers (SEEDAG). Athens, GA. Nov 23 – 25.
58. Lyons, K¹ and **B. Dixon**. 2014. Evaluating Soil Erosion Potential in Response to Landuse Changes within the Fajardo River Basin, Puerto Rico. American Association of Geographers. Tampa, FL. April 8 – 12. [Poster](#)
59. Merton, E.¹ and **B. Dixon**. 2014. Where the mitigated wetlands are: a spatially integrated environmental analysis. American Association of Geographers. Tampa, FL. April 8 – 12. [Poster](#)
60. Douglas, S.¹ and **B. Dixon**. 2014. Analysis of well contamination with respect to landuses and karst features: An integrated geospatial approach. American Association of Geographers. Tampa, FL. April 8 – 12. [Poster](#)
61. Earls J.¹, **B. Dixon**, and Ruiliang Pu. 2014. Development of A Risk Assessment Index Tool (RAIT) for Pollutants On Organic Farms: Using An Integrated Geospatial Method. American Association of Geographers. Tampa, FL. April 8 – 12.

62. Johns, R., **Dixon B.** 2013. Evaluating Food Deserts in St. Petersburg, Florida. 48th Annual FSG Meeting, Gainesville. Talahassee, FL, Feb 8-10.
63. Williams, N. B¹. and **B. Dixon.** 2011. Predicting Sediment Yield in a Tropical Watershed: A GIS based Conceptual Model. GSA Annual Meeting. Minneapolis, MN. Oct 9 – 12. [Poster](#)
64. King, C¹. and **B. Dixon,** 2011. Integrating Virulo model and virus parameters in mapping ground water contamination risk to pathogens. 34th Applied Geography Conferences. CA. Oct 19 – 21. *Refereed*
65. Johns, R and **B. Dixon,** 2011. Policy Solutions to Food Deserts in St. Petersburg, Florida. 47th Annual FSG Meeting, Gainesville, FL, Feb 18-20. [Poster](#).
66. King, C¹ and **B. Dixon,** 2011. Mapping Ground Water Contamination Risk to Pathogen. A Comparative Study. 47th Annual FSG Meeting, Gainesville, FL, Feb 18-20.
67. Nowsu, F[§] and **B. Dixon.** 2010. Using Remote Sensing to analyze changes in artisanal fisheries in Nigeria: A novel case study of Cross River Estuary. Fisheries Society of Nigeria (FISON) EKO2010, Oct 27, Lagos, Nigeria. [International conference](#)
68. Williams, N.B^φ, **B. Dixon** and A. Johnson. 2010. Linking watersheds' hydrologic response to sediment delivery: A conceptual framework. American Water Resources Association (AWRA) International Summer Specialty Conference, August 29th – September 1st, San Juan, Puerto Rico. [International conference](#) *Refereed*
69. Williams N. B^φ, **B. Dixon** and A. J. Pyrtle. 2010. Linking Soil Erosion to sediment Characteristics in a Coastal Tropical Watershed. Ocean Sciences Meeting, Portland, Oregon. 22-26, February
70. Williams, N. B^φ, **B. Dixon** and A. J. Pyrtle. 2009. Estimating Soil Loss From Two Coastal Watersheds in Puerto Rico with RUSLE. 15th International Interdisciplinary Conference on the Environment. Interdisciplinary Environmental Association. Daytona Beach, Florida. July 8-11. [International conference](#)
71. Bradley F¹. and **Dixon B.** 2009. Examining the Relationship between RUSLE and In-Stream Water Quality Parameters: A Statistical Approach. 15th International Interdisciplinary Conference on the Environment. Interdisciplinary Environmental Association. Daytona Beach, Florida. July 8-11. [International conference](#)
72. **Dixon, B.** and Shannon Conley¹. 2009. Characterization of Soil Properties to Derive Pedo-Transfer Functions to Map Soil Moisture at a Regional Scale: A Comparative Study. AWRA Spring Specialty Conference: Managing Water Resources and Development is a Changing Climate. [Poster](#). May 4 – 6th Anchorage, Alaska.
73. **Dixon, B.** Earls, J. A. F. Casper, J. A Gore. 2009. Integrating Spatially Explicit Watershed Models With In-Stream Habitat Models: A Discussion on Constraints With Regard to the Resolution of Data. AWRA Spring Specialty Conference: Managing Water Resources and Development is a Changing Climate. May 4 – 6th Anchorage, Alaska. *Refereed*

¹ Student

[§] Fulbright Scholar I hosted in my lab

^φ A former PhD student

74. Bradley, F¹. and **B. Dixon**. 2009. Using GIS to Investigate Soil Physical Properties in Four South Florida Watersheds. 45th Annual FSG Meeting, St. Augustine, FL, Jan 23-25.
75. Connelly, S¹. and **B. Dixon**. 2009. Mapping Soil Moisture at a Regional Scale Using Integrated Remote Sensing, GIS, and Radar Precipitation: A Comparative Study. 45th Annual FSG Meeting, St. Augustine, FL, Jan 23-25.
76. Bradley, F¹. and **B. Dixon**. 2008. Investigating the Impacts of Soil Erosion and Sediment Yield on Water Quality. USF 2008 Poster Symposium & Competition title Global Challenges for the 21st Century, Tampa, FL. Nov 6. [Poster](#)
77. Bradley, F¹., **B. Dixon** and D. Li. 2008. Investigating Groundwater Contamination Potential in Jinan, China Using GIS. Annual ESRI International User Conference. San Diego, CA. Aug 4-8. [International conference](#) *Refereed*
78. A.F. Casper², **B. Dixon**, M. Hall , E. T. Steimle, R. N. Conmy. 2008. Hi-resolution mapping of water quality in an urban river: An example from the Hillsborough River, Tampa FL. 56 Annual North American Benthological Society (NABS), Salt Lake City, June 10 - 14
79. Earls, J¹ , **B. Dixon** and Karlin A. 2008. Using ERDAS Imagine to Derive Impervious Surfaces from High Resolution Aerial Photography and LiDAR. Annual Meeting American Association of Geographers - Boston, MA, April 15-19.
80. Earls, J¹. and **B. Dixon**. 2008. The Influence of Resolution on the SWAT Model: Examining Neighboring Basins. AWRA Spring Specialty Conference GIS and Water Resources V. San Mateo, CA, Mar 17-19. *Refereed*
81. Earls, J¹. and **B. Dixon**. 2008. The Effects of Landuse and Soil Characteristics On Nutrient Loading Using the Soil & Water Assessment Tool (SWAT): A Comparative Study. Ocean Sciences Meeting, Orlando, FL, Mar 2-7, 2008.
82. Bradley, F¹. and **B. Dixon**. 2008. Using RUSLE to Investigate the Watershed Source-Sink Relationship of CDOM. Annual Meeting American Association of Geographers Boston, MA, Apr 15-19.
83. Bradley, F¹., **B. Dixon** and J. Earls. 2008. Characterization of the Spatial Variability of Terrestrial Watershed Properties In Relation to In-Stream CDOM Distributions. AWRA Spring Specialty Conference - GIS and Water Resources V, San Mateo, CA. Mar 17-19. *Refereed*
84. Earls, J¹ and **B. Dixon**. 2007. Assessment of the Effect of Varying Input Soil Data To Predict Stream flow Using the SWAT Model. ASA-CSSA-SSA International Annual Meeting. New Orleans, LA, Nov 4-8.
85. Earls, J¹ and **B. Dixon**. 2007. Application of the Soil and Water Assessment Tool (SWAT) in modeling the effects of landuse change on watershed hydrology. 30th Applied Geography Conferences. Indianapolis, IN. Oct 17 – 20.

1 Student or Student Research Assistant

2. Post Doc

86. **Dixon, B.**, Stetson, R¹. and Smith S. 2007. Examining Resolution Effects on the Prediction of the Revised Universal Soil Loss Vulnerability Equation (RUSLE-V). Florida Society of Geographers Annual Meeting, Jacksonville, FL. February.
87. **Dixon, B.**, Stetson, R¹ and Smith S. 2007. Creating a Soil Erosion Vulnerability Map at 3 Different Resolutions for the US Southeast. Florida Academy of Sciences Annual Meeting St.Petersburg, FL. March. [Poster](#)
88. Stetson, R¹ and **Dixon, B.** 2007. Resolution Effects on the Prediction of RUSLE in 3 different physisogeographic Regions of the US” American Association of Geographers Annual Meeting, San Francisco, CA. April.
89. Earls J¹ and **Dixon B.** 2007. Spatial Interpolation of Rainfall Data Using ArcGIS: A Comparative Study”. 27th Annual ESRI International User Conference. San Diego, June. [Refereed International conference](#)
90. Stetson, R¹, **Dixon B.**, Candade, N⁷. 2007. A Comparison of Kriging Methods for Well Contaminates in the Tampa Bay Region of Florida. 27th Annual ESRI International Users Conference, San Diego, CA. June. [International conference Refereed](#)
91. Earls, J¹. and **Dixon, B.** 2007. Evaluation of Drainage Basin Delineation: ArcHydro & the Soil & Water Assessment Tool (SWAT). Association of American Geographers Meeting, San Francisco, CA, April.
92. Earls, J¹. and **Dixon, B.** 2007. Sensitivity Analysis of the SWAT Model to the Resolution of Input, Calibration and Validation of Data. American Society of Photogrammetry and remote Sensing Annual Conference, Tampa, FL, May.
93. Earls, J¹. and **Dixon, B.**, 2007 Effects of Input Resolution on Stream flow Predicted by the SWAT Model. Florida Academy of Sciences Annual Meeting, St. Petersburg, FL, Mar.
94. Earls, J¹ and **Dixon, B.**, 2007. Evaluation of the Sensitivity of Fractal Dimension Analysis for Classification of Natural vs. Artificial Wetlands. Florida Society of Geographers Annual Meeting, Jacksonville, FL, February.
95. Johns R, **Dixon, B.**, Dennison, D¹ and Stetson, R¹. 2007. Space-Time Convergence in the Creation of Opportunities for Violent Crime against Children in Pinellas and Hillsborough Counties, Florida: minimizing access through public policy. Florida Society of Geographers Annual Meeting, Jacksonville, FL, February.
96. Earls, J¹., **Dixon, B.** & Prieto, M¹. 2006. Sensitivity of Fractal Dimension Analysis to Resolution of Input Data for Classification of Natural vs. Artificial Wetlands. 29th Annual Applied Geography Conference, Tampa, FL, Oct. [Refereed](#)
97. Earls¹ J and **Dixon, B** and Holmes, M. 2006. An Evaluation of the SWAT Model Sensitivity and autocorrelation to Regression Analysis of Flow Data for Charlie Creek, Central FL. 29th Applied Geography Conference, Tampa FL. Oct 11 – 14. [Refereed](#)
98. Earls¹, J and **Dixon, B.** 2006. A comparison of Model-Predicted Evapotranspiration by the SWAT Model with real and Modeled Meteorology. 18th Wo0rld Congress of Soil Science, Philadelphia, PA. July 10th – July 14th.

99. Earls¹, J and **Dixon, B.** 2006. The Influence of Resolution on the SWAT Model: Examining Neighboring Basins. AWRA Spring Specialty Conference GIS and Water Resources IV. Houston, TX, May 8-10. *Refereed*
100. Earls¹, J and **Dixon, B.** 2006. Comparison of annual calibration of SWAT model at differing resolutions. Adaptive Management of Water Resources, AWRA Summer Specialty Conference MT, June 26-28. *Refereed*
101. **Dixon, B.**, Candade, N¹. and J. Earls¹. 2006. Development of an integrated methodology to assess vulnerability of ground water to pathogen intrusion using GIS, remote sensing, neural networks and neuro-fuzzy methods. American Association of Geographers, Annual Meeting, Chicago, IL, March.
102. Earls¹, J. and **Dixon, B.** 2006. Utilizing SWAT to Model Spatio-Temporal Influences on River Basins At Differing Resolutions Annual Meeting Association of American Geographers, Chicago, IL Mar 7-10.
103. Earls¹, J., N. Candade¹ and **B. Dixon.** 2006. A Comparative Study of Landsat 5 TM Landuse Classification Methods including Unsupervised Classification, Neural Network and Support Vector Machine for Use in a Simple Hydrologic Budget Model. ASPRS Annual Conference - Prospecting for Geospatial Information Integration – Reno, NV - May 1-5
104. **Dixon, B.**, R. Stetson¹ and J. Earls¹. 2005. Examining Spatio-temporal relationships of landuse change, population growth, and water quality in Tampa Bay area. Applied Geography Conference. Washington D.C. November. *Poster*
105. **Dixon, B.** and Candade N¹. 2005. Integrated GIS and machine learning algorithms applied to ground water contamination mapping: a comparative study. Applied Geography Conference. Washington D.C. November. *Refereed*
106. Earls¹, J and **Dixon, B.** 2005. Using landsat 5 TM to determine landuse classification for representing seasonal ET from 2 unique Drainage Basins in a hydrologic budget. Applied Geography Conference. Washington D.C. November. *Refereed*
107. Earls¹, J. and **Dixon, B.** 2005. SWAT: How Much Does Resolution of Soils Matter When Comparing Real vs. Simulated Meteorological Data? Soil Science Society of America Annual Meeting. Salt Lake City. November. *Poster*.
108. **Dixon, B** and Candade, N¹. 2005. Can Logistic Regression and/or Feature Selection Methods Be Used to Predict Contaminated Wells? a Case Study of Polk County, Florida. Soil Science Society of America Annual Meeting. Salt Lake City. November. *Poster*.
109. **Dixon, B.** and Candade N¹. 2005. Groundwater Contamination Mapping Using Integrated GIS and Neural Networks: A Sensitivity Analysis. Presentation. International Conference on Environmental Science and Technology. January, New Orleans.
110. Candade¹, N. and **B. Dixon.** 2005. Effects of Training Sizes and Dimensionality on

¹ Student or Student Research Assistant

- NN and SVM Performance: A Comparative Study. American Association of Geographers, Annual Meeting, Denver, CO, April.
111. Stetson¹ R, **Dixon, B.** and Candade, N¹. 2005. Comparison of various krigging methods for contaminated wells in Tampa Bay region FL, [Poster](#). Florida Society of Geographers, Annual meeting. Orlando, Feb. 2005.
 112. **Dixon, B.**, Scott, H.D and A. M. Mauromoustakos. 2004. A GIS-based comparison of neural networks and neuro-fuzzy models to predict ground water vulnerability. Soil Science Society of America Annual Meeting, Seattle November 2004.
 113. **Dixon, B.** 2004. Can integrated ground water vulnerability mapping tool facilitate sensitivity analysis in a spatial domain? Presentation. International Conference on Geo Environment. Spain, July 2004. [International conference Refereed](#)
 114. **Dixon, B.** 2005. Does Resolution Matter? A comparative Assessment of Physically-based SWAT Model. Presentation. 4th International Conference in Risk Analysis and Hazard Mitigation. Greece, September, 2004. [International conference Refereed](#)
 115. **Dixon, B.** 2004. A comparison of fuzzy logic and neuro-fuzzy based methodologies to predict ground water contamination potential. Presentation. American Association of Geographers, Annual Meeting, Philadelphia, PA, March 14th – 19th.
 116. Candade, N.¹ and **Dixon, B.** 2004. Application of GIS-based neural networks to predict ground water contamination potential. American Association of Geographers, Annual Meeting, Philadelphia, PA, March 14th – 19th. [Poster](#).
 117. **Dixon, B.** 2004. Ground Water Vulnerability Mapping Tool: NN and fuzzy logic: one, the other, or both?? Presentation. AWRA's 2004 Spring Specialty Conference Geographic Information Systems (GIS) and Water Resources III Water. Nashville, May 2004. [Refereed](#)
 118. Candade, N.¹ and **Dixon, B.** 2004. Comparison of Neural Network and Neuro-fuzzy Techniques in Ground Water Vulnerability Mapping: A Case Study. AWRA's 2004 Spring Specialty Conference Geographic Information Systems (GIS) and Water Resources III Water. Nashville, May 2004. [Poster](#).
 119. Candade, N.¹ and **Dixon, B.** 2004. Multispectral classification of Landsat images: Comparison of Support Vector Machine and Neural Network classifiers. ASPRS Annual Meeting. Denver, May 2004.
 120. Candade, N.¹. and **Dixon, B.** 2004. Supervised classification of spectrally enhanced Landsat TM data of Joshua Creek Watershed, Florida. Presentation. Annual meeting of Florida Society of Geographers, 2004, Pensacola Beach, FL. February 6th – 8th .
 121. Candade, N.¹ and **Dixon, B.** 2004. Integrated Vulnerability Assessment of Ground Water for Hillsborough County, Florida: A Case Study. AWRA Annual Conference, Orlando, November. [Refereed](#)
 122. **Dixon, B.** 2003. Assessing Transferability of a GIS-Based Neuro-fuzzy Model to Predict Ground Water Contamination Potential. Presentation. American Association of

¹ Student or student research assistant

- Geographers, Annual Meeting, New Orleans, LA, March.
123. **Dixon, B.** 2003. A comparison of fuzzy logic and neuro-fuzzy based methodologies to predict groundwater vulnerability. Presentation. Soil Science Society of America Annual Meeting, Denver, CO, Nov 2 – 5th
 124. **Dixon, B.** 2003. Can contamination potential of ground water to pesticides be identified from hydrogeological parameters? Presentation. 26th Applied Geography Conference. Colorado Springs, CO, November 5th – 8th. *Refereed*
 125. Bailey,¹ A. N. and **Dixon, B.** 2003. A Methodology to Estimate Soil Moisture Content from WSR-88D Data. Presentation. American Association of Geographers, Annual Meeting, New Orleans, LA, March.
 126. Streubert¹, M. and **Dixon, B.** 2003. Effects of varying resolution in the assessment of SWAT modeling. Florida Society of Geographers, Boca Raton, FL, February 6th – 8th
 127. **Dixon, B.** 2002. Can ground water sampling strategy be improved by incorporating fuzzy logic in a GIS? 25th Annual Applied Geography Conference. Binghamton, NY, October. *Refereed*
 128. **Dixon, B.** and H. D. Scott. 2002. Determining appropriate size of the training data sets for Neuro-fuzzy models to predict ground water vulnerability in Northwest Arkansas. Presentation. Southern Branch, American Society of Soil and Water, Annual Meeting, Orlando, FL, February
 129. **Dixon, B.**, H. D. Scott and J. V. Brahana. 2002. Application of Neuro-Fuzzy techniques to predict ground water vulnerability. Presentation. Third International Conference on computer Simulation in Risk Analysis and Hazard Mitigation, Sintra, Portugal, June.
 130. **Dixon, B.**, H. D. Scott, J. V. Brahana, A. Mauromoustakos, and J. C. Dixon. 2001. Delineation of ground water vulnerability to agricultural contaminants using Neuro-fuzzy techniques. Presentation. Annual Meeting of Soil Science Society of America, Charlotte, NC, October.
 131. **Dixon, B.**, T. H. Udouj, and H. D. Scott. 2000. Examination of Spatial variability of parameters affecting contamination of ground water in Arkansas Delta. Southern Regional Geological Society of America Meeting . Fayetteville, AR. April.
 132. **Dixon, B.**, T. H. Udouj, H. D. Scott, A. Mauromoustakos, T. Kresse and F. Limp. 1999. Analyses of the Spatial Variability of Bentazon Contamination of Wells in the Arkansas Delta Presentation. Arkansas GIS Users Forum. Eureka Springs, AR. September.
 133. **Dixon, B.**, H. D. Scott, T. Kresse, K. F. Steele, and W.F. Limp. 1999. Comparison of the Spatial Variability of Pesticide Contamination of Wells in the Arkansas Delta. Annual Meeting Program of Soil Science Society of America. Salt Lake City, Utah October-November.
 134. **Dixon, B.**, H. D. Scott, H. S. Lin, K. F. Steel and J. C. Dixon. 1998. Comparison of modified DRASTIC and fuzzy-logic predictive models in ground water contamination. Annual Meeting Program of Soil Science Society of America, Baltimore. October.

¹ Student or Student Research Assistant

135. Udouj, T.H., **Dixon, B.** and H. D. Scott. 1998. Application of GIS and RS techniques to the analysis of Spatial and Temporal Changes in the Buffalo River Watershed. American Society of Soil and Water, Southern Regional Meeting, Little Rock, AR. February.
136. J. V. Skinner Jr., **B. Mitra** and H. D. Scott. 1997. Use of Fuzzy Logic to Predict Soil Productivity and Crop Yield. Annual Meeting Program of Soil Science Society of America. Anahiem CA. October.
137. **Mitra, B.** and T. H. Udouj. 1997. Applications of GIS in natural resource management: primary and secondary attributes of soils, Lonoke and Prairie Counties. Arkansas GIS Users Forum. Hot Springs, AR. September.

Awards, Honors

- ✓ Fellowship at Community-Based Participatory Research (CBPR) Partnership Academy, Urban Research Center, University of Michigan, 2022
- ✓ Recognized in the Stanford/Elsevier Citation list for top 2% researchers in single-year database for 2021 and 2023. For 2021 [August 2021 data-update for "Updated science-wide author databases of standardized citation indicators" - Elsevier BV \(digitalcommonsdata.com\) and for 2023 \(https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6\)](https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6).
- ✓ Recipient of USF Outstanding Faculty Award (2020).
- ✓ Recipient of Fulbright Specialist Award (Roster Dec 2018 - Dec 2021) – Assignment at the Geo-informatics and Space Technology Development Agency (GISTDA), Thailand 2019.
- ✓ Recipient of Certificate of Global Achievement Award, (Faculty category – USF System). 2018
- ✓ Recipient of ‘Outstanding Mentor Award’ for Florida Society of Geographers (FSG), 2016
- ✓ Recipient of Departmental Best Researcher Award, 2016
- ✓ Recipient of USFSP Chancellor’s Award for excellence in Service for 2011
- ✓ Recipient of USFSP Chancellor’s Award for excellence in research and creative Scholarships for 2007
- ✓ Recognized as USF’s “Rising Research Star” (2005).
- ✓ USF International Travel Awards (2002) to attend Third International Conference on computer Simulation in Risk Analysis and Hazard Mitigation, Sintra, Portugal, June
- ✓ Awarded numerous travel awards by the University of Arkansas, Fayetteville (1995 – 2001) to attend conferences.

Service Responsibility (2001 – Present):

Professional Service (Regional, National and International):

1. Conference/Panel Organizations and Participation

- i) Started an Initiative called ICAR (Coastal Adaptation and Resilience) to address challenges and solutions for coastal cities in the context of climate change and sea-level rise. <http://www.usfsp.edu/icar/> 2014 – present organized various workshop
- ii) Coordinating Pinellas County Emergency Officials and their whole community engagement program to develop a community-based participatory model to develop a street team for storms (referred to as Storm Squad) to ensure equity in resource allocations during disaster preparation and recovery process – 2021 - present
- iii) Status of Women in Geography Committee, AAG standing committee member – 2022 – 2024.
- iv) Invited to serve as a Member of Certified GEOINT Professional - GIS & Analysis Tools (CGP-G) Item Validation and Standard Setting workgroup. 2018.
- v) Organized and hosted a workshop called ‘Social Aspects of Resilience: identifying key areas of social vulnerability and enhancing resilience. October 4-5, 2017. USFSP
- vi) Organized and hosted a workshop called ‘Solutions for Coastal Cities Resilience and Adaptations in Tampa Bay’ . Sep 13 and 14, 2016. USFSP
<https://www.usfsp.edu/icar/icar-2016-2/>
- vii) Organized and hosted a workshop called ‘Coastal adaptation and resilience in Tampa Bay’. Sep 22 and 23, 2015. USFSP. <http://www.usfsp.edu/icar/icar-2015/>
- viii) President Florida Society of Geographers (FSG) (2013 – 2014)¹
- ix) Treasure Elect Florida Society of Geographers (FSG) (2015 -2019, Reelected in 223 present)
- x) Member of the AAG Committee on the Status of Women in Geography 2021 – present and leading a research project on the status of women in geography supported by AAG
- xi) Member of American Association of Geographers (AAG) Local Arrangements Committee (LAC) for Tampa 2014 convention (2012 – 2014)²
- xii) Chair of AAG LAC ’14 subcommittee on Information Materials (2012 – 2014).
- xiii) Vice President of Florida Society of Geographers (2011 – 2013)²
- xiv) Nominee as Counselor for International Environmental Association (IEA) (2011)
- xv) Panelist for the Power Panel: Education for the Geospatial Infrastructure Industry. GITA (Geospatial Infrastructure Solutions Conference), Tampa, April 19-22 (2009)
- xvi) International Environmental Association (IEA) advisory group member for North America for the start-up of KAO- Honors society (2009)
- xvii) Co-chair for the break-out session for the [Modeling of Terrestrial and Coastal Carbon Fluxes in the Gulf of Mexico Workshop](#) (May 6-8, 2008), USGS St. Petersburg, FL
- xviii) Active member of American Society of Photogrammetry and Remote Sensing (ASPRS) National Conference Planning committee. Coordinated Student Volunteer

1 FSG hosted here at St. Pete, in 2014 and I was the president and by default the chair of the conference host committee.

2 AAG is an International meeting and we are hosting it in Tampa. I will serve as the chair of the subcommittee on Information Materials for the conference and member of the LAC.

- for the ASPRS National Meeting in Tampa, May 2007
- xix) Organized Panel for GIS and Environment for the Interdisciplinary Environmental Research, 2006
- xx) Organized and hosted GIS day 2001 – present
- xxi) Editorial Board Member for the Open Civil Engineering Journal 2007 - 2009
- xxii) Executive Member for *Florida Society of Geographers* (3-year term). 2005-2007.
- xxiii) Session Panelist: Making your own way: Grant proposal writing for graduate school and beyond, *American Association of Geographers*, April 2005, Denver.
- xxiv) Organized student chapter for American Society of Photogrammetry and Remote Sensing (ASPRS) 2004- present
- xxv) Served as a Session Chair for ‘the Sampling and Design Session’, Applied Geography Conference. October 22 – 26th, 2002, Binghamton, NY
- xxvi) Session Chair: ‘The Sampling and Design Session’, Applied Geography Conference. October, 2002, Binghamton, NY.
- xxvii) Helped organizing regional specialty conference: Measuring the earth - Digital Elevation Technologies and Applications – organized by ASPRS and MAPPS and Co-sponsored by NASA and USGS. October 29 – November 2, 2001, St. Petersburg, FL.

2. Reviewed manuscript for

- i. Journal of Spatial Hydrology
- ii. Journal of Hydrology
- iii. Journal of Environmental Management
- iv. International Journal of Remote Sensing
- v. Science of the total environment
- vi. Computers and Geosciences
- vii. American Society of Photogrammetry and Remote Sensing (ASPRS)
- viii. Journal of American Water Resources Association (AWRA)
- ix. Hydrological Science Journal
- x. Hydrogeology Journal
- xi. Professional Geographer
- xii. International Journal of GIS
- xiii. Perspective on Agriculture, Nutrition and Natural Resources
- xiv. Environmental Monitoring and Assessment
- xv. Environmetrics

3. Hosted International Scholars at USFSP[♀]

- ✓ An exchange scholar from Japan to work on a comparative analysis of disaster preparation in the US and Japan, Dr. Noriko Tateyama Professor & Chair of Department Department of

[♀] These scholars came to USFSP fully funded by their respective Govt. agency, institute or university to learn mapping and modeling methods I developed.

Symbiotic Design College of Interhuman Symbiotic Studies Kanto-Gakuin University, **Japan**, 2021-2022

- ✓ A MS student (I served on his committee as co-Chair), Graduate School of Natural and Applied Science-Remote Sensing and GIS, Department of Geomatic Engineering, Yıldız Technical University, Esenler Istanbul, **Turkey**. (Mustafa Usner) Summer 2013
- ✓ A Visiting a Senior Research Scholar from Kuwait Institute of Scientific Research (KISR), **Kuwait**. Summer 2011 (Waleed Roy)
- ✓ A Fullbright exchange scholar from University of Calabar, Calabar, **Nigeria** 2009 – 2010 (Francis Nowsu)
- ✓ A visiting scholar from China (working at EPA equivalent of China) spent 1 year in my lab learning about the models and she is being sponsored by the Chinese Government (DaQui Le) **China** – 2007 - 2009
- ✓ A visiting scholar from Argentina (Director of their Environmental Protection Agency) Summer of 2008 (Paula Blanco), **Argentina**

4. International Capacity Building by Invitation^Ω

- ✓ National Mapping Organization (NATMO), **India**, 2013
- ✓ Vellore Institute of Technology (VIT), **India**, 2012
- ✓ University of Calabar, **Nigeria**, 2011
- ✓ Ministry of Water resources, **Ethiopia**, 2005

5. International Grad Student and Post Doc Supervision by Invitation[♫]

- ✓ *Ms. Wided Batita* Department of Environmental Management, Mediterranean Agronomic Institute of Chania(**MAICh**), **Greece**
- ✓ *Mr. Elham Fijani*, Department of Geology, University of Tabriz, East Azarbaijan, **Iran**
- ✓ *Mr. Vasant A. K.* Department of Geosciences, *Anna Malai University*, **India**
- ✓ *Dr. Pijush Samui* VIT, *Center for Disaster Mitigation and Management*. **India**

6. National and International Professional Advising/Project Reviewer

- i. National Research, Development and Innovation Office (NKFIH), **Hungary**, 2017
- ii. International Committee member (2017) for ‘ International Conference on Modeling of Environmental and Water Resources Systems (ICMEWRS 2017) March 24–26, 2017. **India** (Sponsored by TEQIP-II, World Bank)

^Ω I was invited by these organizations to help them build centers for GIS data gathering and information dissemination and training. Additionally, I was asked to develop projects to assess and then enhance GIS data development and modeling capacities in these countries.

[♫] These are the folks I have worked with remotely via skype and email, they used various fuzzy, neuro-fuzzy and SVM and RVM methods I have developed in their graduate and post doc work, I served on their committee (as co-chair or committee members) but they never visited the my lab here at USFSP.

- iii. German-Israeli Program in Water Technology, Technion – Israel Institute of Technology, **Israel** (2010)
- iv. Panelist for Proposals for **NSF** SBE REU Annual Merit Review Report (NSB 10-27) (Oct, 2010)
- v. Panelist for Proposals for **NSF** proposal review (Fall, 2023)
- vi. Advisor to the Government of **New Zealand** (2009)

Departmental, College, University and System-level Service:

1. Departmental Committees:

- i) Graduate Admission Committee, School of Geosciences (2020 – 2021, 2023-present)
- ii) GIS committee, School of Geosciences (2020 – present)
- iii) Annual Faculty Evaluation Committee, School of Geosciences (2022)
- iv) Tenure and Promotion Evaluation Committee, School of Geosciences, (2020-2022, 2023-2024)
- v) ESP Annual Evaluation Committee (2017 and 2018)
- vi) ESPG Chair (Dec 2013 – May 2016)
- vii) ESPG Interim Chair (May 2013- Nov 2013)
- viii) ESPG Associate Chair (May 2011 – Aug 2013)
- ix) Member of the Curriculum Committee (Ex Officio - Summer 2013 – Spring 2016)
- x) Member of the Graduate Committee (Ex officio – Summer 2013 – Spring 2016)
- xi) ESPG Graduate Program Coordinator (2010 – Fall 2012)
- xii) Chair of the Curriculum Committee (2011 – Fall 2012)
- xiii) Chair of the Graduate Committee (2010 – Fall 2012)
- xiv) Chair of the ESPG Graduate committee (2010 – Fall 2012)
- xv) Chair of the ESPG Budget Committee (2008 – Fall 2012)
- xvi) Member of the Annual Review Committee (2007 – 2009, 2011)
- xvii) ESPG Graduate Program Coordinator (2010 – Fall 2012)
- xviii) Chair of the Curriculum Committee (2011 – Fall 2012)
- xix) Chair of the Graduate Committee (2010 – Fall 2012)
- xx) Ad-Hoc election committee member for Chair and Co-Chair (2008)
- xxi) Member of the ESPG Graduate committee (2008 – 2010)
- xxii) On-line Curriculum and Distance Learning Committee ESPG (2006 – 2007)
- xxiii) Member of Executive Committee for ESP&G (2004 - 2005)
- xxiv) Member of Budget Committee for ESPG POD (2003)
- xxv) Member of the Colloquium Committee for ESP&G (2003 – 2005)
- xxvi) Member of the Steering Committee for ESPG POD (2002 – 2003)

2. Search Committees (Dept and College Level):

- i) Remote Sensing (Chair, Yi, 2025)
- ii) Natural Hazards (Chair, Meindl, 2024)
- iii) Environmental Policy (Chairs. Alegria and Johns, 2012)
- iv) Physics (Chair, Dr. B. Dixon, 2008)
- v) Statistics (Chair Dr. D. Cassil, 2006)
- vi) Geography (Chair Dr. R. Johns, 2006)
- vii) Lab Manager (ESP&G, 2003 - 2004)
- viii) Mathematics (Chair Dr. M. Gaulter, 2005)
- ix) Mathematics (Chair Dr. D. Cassil, 2005)
- x) Mathematics (Chair Dr. G. Yanev, 2003)
- xi) Criminology I (Chair Dr. W. Ruffle, 2003)
- xii) Criminology II (Chair Dr. W. Ruffle, 2003)
- xiii) Environmental Chemist (Chair Dr. E. S. Van Vleet, 2003)
- xiv) Wetlands Ecologist (Chair Dr. E. S. Van Vleet, 2003)
- xv) Wetlands Hydrologist (Chair Dr. E. S. Van Vleet, 2003)
- xvi) Senior Environmental Scientist (Chair Dr. E. S. Van Vleet, 2003 - 2004)
- xvii) Office Assistant (ESP&G, 2003)

College-Level Service:

- i) Member of the CAS Faculty Council (2018 – 2020)
- ii) Member of Annual Review Committee CAS (2017- 2018)
- iii) Member of the CAS Academic Programs Committee (APC) 2010 – 2011 and 2013-2015.
- iv) Member of the CAS Faculty Council (2010 – 2012)
- v) Member of the CAS Tenure Promotion (T & P) Committee (College Level) 2010 – 2012

USFSP University-Level Service:

- i) Founding member of the Student Green Energy Fund (SGEF) USFSP (2011-2014)
- ii) Member of the Enrolment Committee (University level senate committee for USFSP) 2010 – 2011
- iii) Member of the Executive Council for Center for Science & Policy Applications for the Coastal Environment (C-SPACE). 2005 - 2011
- iv) Member of the USF SP Tenure Promotion Committee (University Level) 2008 – 2010
- v) Member of the ‘Space Request Review Team’ (University level). 2009
- vi) Co- Chair of the USF SP Strategic Planning Sub-Committee for Environmental stewardship. 2008
- vii) Member for the University of South Florida St. Petersburg Research Council. 2007 –

- 2008
- viii) Member of search Committee for Assistant Vice President for Research and Community Partnership, University of South Florida St. Petersburg. (Chair Dr. M. Wilson), 2003
- ix) Member of Faculty Roles and Reward Committee, University of South Florida St. Petersburg. 2002 - 2003
- x) Member of Research and Library Council, University of South Florida St. Petersburg. 2002 – 2003

USF System Wide Service

- i) Member of Taskforce for College of Artificial Intelligence, Cybersecurity and Computing (2024)
- ii) Faculty Liaison for Academics and Campus Environments (ACE) Board of Trustee (BOT) workgroup (2013 – 2015)
- iii) USFSP designee for the Academics and Campus Environments Advisory Council (ACEAC), Board of Trustee (BOT) Workgroup (USF system-wide) 2010 – 2012
- iv) Member of the ‘Proposal Development Enhancement Task Force’ Office of Research and Innovation (USF system-wide) 2010.
- v) Served as a reviewer to evaluate proposal for USF (Tampa) Internal Awards (USF Faculty Senate Research Council), 2005.
- vi) Served as a reviewer to evaluate proposal for USF (Tampa) Internal Awards (USF Faculty Senate Research Council), 2006
- vii) Served as a reviewer to evaluate proposal for USF (Tampa) Internal Awards (USF Faculty Senate Research Council), 2003.

Community Service and Connections

1. Hosted GIS workshop to train professionals in the community (2001 – Present). Detailed list of participants can be found at <http://www.usfsp.edu/gisworkshop/>.
2. Hosted GIS Day from 2001 – present. <https://www.usfsp.edu/gisday/>
3. Worked with teachers and advised of GIS curriculum development for Gause Academy (2015)
4. Polk County Election Commission Data Rearranging and Redistricting using GIS (Fall 2011)
5. Member of the Pinellas County Complete Count Committee for 2010 Census. (2009 – 2010)
6. Trained teachers with GIS for USGS and National Ground Water trust (2010)
7. Invited to give a talk to AP Human Geography Teachers’ Workshop (June 23, 2010)
8. Worked with teachers and advised of GIS curriculum development for Suncoast Polytechnique High school (2010)

9. Hosted a forum on Exploring Collaborative Opportunities and Resource Sharing in GIS Training (2008).
10. Hosted a Forum on Emergency Response: Critical Need Assessment for Data Exchange Capabilities, Interoperability, Seamless Spatial Coverage & Web-based GIS (2007).
11. Hosted a forum of Crime Mapping that attracted many local, city and county law enforcement agencies from the nation (2006).
12. Working closely with Dr. Meg Lowmen (New College) to help the Center for Ecological Assessment (CEA) in Sarasota County organize a workshop for resource managers on remote sensing application to environmental science. 2005.
13. Participated Community Water Leadership Program (a collaborative effort between USF's Institute of Government and South West Florida Water Management District. 2003.
14. Worked closely with USF Family Village through USF's Collaborative for Children Families and Communities program to conduct research titled: to Pre-schoolers' vocabulary acquisition and understanding of scientific concepts from participation in repeated read aloud events involving informational picture books. This project was funded by Juvenile Welfare Board of Pinellas County. 2002.

Professional Workshops Offered ^F

- a. GIS for Beginner I & II
- b. GIS for Intermediate I & II
- c. GIS for Advanced I & II
- d. GIS for Fisheries I & II
- e. Environmental Application of GIS
- f. GIS for IT Professional
- g. Transportation Application of GIS
- h. Spatial Interpolation with GIS
- i. Integration of GIS for Infrastructure Management and Risk Analysis
- j. GIS for Emergency Management and Response Personnel
- k. GIS for Teachers
- l. Remote Sensing for Beginners
- m. Environmental Application of Remote Sensing
- n. Advanced Remote Sensing
- o. GIS for Human Terrain Analysis

^F Workshop participants include county, state and federal agencies involved in environmental protection, emergency response, planning and development, as well as transportation and defense industry. The workshop participants also include professional from various corporations. Although aforementioned participants mostly come from Florida, we also have had many international attendees at these workshops including Bahamas, Nigeria, New Zealand, India and other states within US including Hawaii, Oklahoma, Georgia and Puerto Rico. For more details visit www.usfsp.edu/gisworkshop.

- p. Beginner Water Resources Applications of GIS
- q. Advanced Water Resources Applications of GIS

Faculty Development Workshops Attended:

Pedagogy Related (from USF for 21st Century Teaching Excellence and Other Pedagogic Conferences/Workshops)

1. **Facilitating Diverse Perspectives with Peer Learning**, Oct 26th, 2022 offered by Dr. Gunther Jikeli from Indiana University.
2. **Assessing Assessment: Evaluating learning while maintaining the integrity**, April 28th. by T.J. Woods, (Lindenwood University), Mark Fuller (Labster), Tyler Strke (Honorlock)
3. Build better-blended learning experience – the connected learning summit offered by ASU (June 9th, 2021). Specific session included
 - a. **Preparing the underprepared** – Leveraging education technology for equitable and inclusive education by Drew Berrett – Pearson Education
 - b. **Culture and Course Design: Building diverse and inclusive learning experience** by Lisa Shin and Samuel Sommers, Tuft University
4. Completed Online Instructor Certification Course, Dec 2020
5. Critical Thinking Skills 2004
6. Higher Order Outcomes 2003
7. Active Learning 2002
8. Technology Enhanced Teaching 2002

Teaching and Professional Workshop at USF

1. The Enlightenment Series at USF
 - a. **From Bystander to Ally and Advocacy: Addressing Inequities in Higher Education (Jan 18th, 2022)** by Dr. Fai Howard, Dr. Sylvia Thomas, Dr. Stephen Aikins, Dr. Denise David-Cotton, and Dr. Tangela Serls.
 - b. **The Gap That Divides: becoming Bridge Builders to Promote Student Success (Nov 9, 2021)** by Dr. LaTosha Thomas, Dr. Anthea Henderson, and Major Larry Black Jr.
2. Attended Summer Workshop on integrating Ethics in curriculum (2011)
3. Attended Special workshop on Ethics (2010 – 2011)¹
4. Attended workshop titled: ‘Courage to Teach’. 2009 - 2010¹

¹ Attended monthly meeting during the entire academic year

Professional Workshops and Continued Education to keep up with the ever changing field of GIS

1. ESRI Education Chat: Teaching and Learning with ArcGIS Living Atlas of World Apps, March 5th, 2024
2. Please Delete Your Shape Files: Teaching Web-Based Moderns GIS Sep 27, 2023
3. ESRI Imagery and Remote Sensing Educators Summit, March 31, 2022
4. Served on faculty panel for ESRI – Teaching Modern GIS, April 12, 2022
5. Teaching Web GIS and Mobile GIS using ESRI's Geospatial Cloud, April 9th, 2020
6. ASPRS Lidar Workshop Integration of Drone with LiDAR, Florida, March 16th, 2019 received continuing education credit
7. Attended AAG workshop '*Teaching Web GIS using Getting to Know Web GIS 3rd edition*', AAG Workshop, April, 2018
8. Participated ESRI workshop: ESRI developer Summit Online, March 6th, 2018
9. Attended AAG workshop '*Capstone Projects for Masters Programs in Geographic Information Science and Technology*' April, 2017
10. Attended AAG workshop 'The role of undergraduate education in the professional development of geographers' April 2017
11. Attended AAG workshop '*Blended Learning for GIS Instruction*', April 2017
12. Attended AAG Workshop '*The Shanghai Model for Online Geography Education*', 2016
13. Attended AAG workshop/panel '*Maps and Apps: Using the Cloud and Mobile Technologies in Geospatial Education*' 2016.
14. Attended ESRI Online workshops on GIS: '*Introduction to ArcGIS Runtime SDK for Android*' 2012.
15. Attended ESRI Online workshops on GIS: '*Getting the Most out of ArcGIS Explorer Online*'. 2011
16. Attended ESRI Online workshop titled: '*Using ArcGIS for Land Records Management*. 2011
17. Attended ESRI Online workshop titled '*Versioned Editing Workflows for the Multiuser Geodatabase*' 2011
18. Attended ESRI Online workshop titled '*Using ArcGIS Data Reviewer to Assess Data Quality*. 2011

Leadership Related Workshop

1. Department Chairs Workshop Phase I, Institute for Academic leadership FSU, June 8 – 11th, 2014
2. Department Chairs Workshop Phase II, Institute for Academic leadership FSU, Sep 14 – 17th, 2014

€ I attended these workshops to keep up-to-date and bring these info to my classrooms

