



4th Biennial Geo Symposium

February 9-10, 2023

Hosted by the Department of Geography & Sustainability

GeoSym Co-Chairs Kayla Roulhac, Rose Shelor, and Katrina Stack

GeoSym Planning Committee Bryan Clayborne, Caleb Gore, Emily Morgan, Jack Spining, Leah Coffey, Morgan Steckler, Rosemary Ayelazuno, Savannah Collins-Key

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Special thank you to our conference supporters... Department of Geography & Sustainability, Department of Sociology, Department of Religious Studies, and College of Arts & Sciences

Thursday, February 9

Opens 11:30 am **Registration**
 Location: Student Union 169

12:00 - 1:15 pm **Housing and Agricultural Practices**
Session Chair: Solange Munoz, University of Tennessee, Knoxville
 Location: Student Union 169

***Presentation coauthors and abstracts for this session can be found on pages 5-7*

Rosemary Ayelazuno <i>University of Tennessee, Knoxville</i>	Examining housing experiences among International Students at UTK
Annie Liu <i>University of Tennessee, Knoxville</i>	From Public Housing to Vouchers: the impacts of redevelopment and forced displacement on low-income public housing residents
Rachel Noble-Varney <i>University of Kentucky</i>	Exploring acceptance of and resistance to federal intervention through the Appalachian Regional Commission
Lutfiyah Madyun <i>University of Tennessee, Knoxville</i>	Cultivating Sustainability in Children
Kelly Sauskojus <i>University of Tennessee, Knoxville</i>	Grantwriting Ecologies of East Knoxville Urban Agriculture Nonprofits

1:30 - 2:30 pm **Weather, Networks, and Neighborhoods**
Session Chair: Kelsey Ellis, University of Tennessee, Knoxville
 Location: Student Union 169

***Presentation coauthors and abstracts for this session can be found on pages 8-9*

Joshua Pepper <i>Michigan State University</i>	Evaluating spatial interpolation reliability for the Lot-level Assessment of Neighborhood Disorder (LAND) virtual audit tool
Morgan Steckler <i>University of Tennessee, Knoxville</i>	Machine learning of tornado-producing mesoscale storm in the Southeast US
Nicholas Grondin <i>University of Tennessee, Knoxville</i>	A Climatology of Extreme Intensity Change of North Atlantic and Eastern North Pacific Tropical Cyclones Prior to Landfall
Kelsey Ellis <i>University of Tennessee, Knoxville</i>	Beat the heat: Building adaptive capacity of vulnerable populations in Knox County to combined stressors from climate change and urban heat

2:45 - 3:15 pm

Q&A with UT Geography Graduate Students

Panelists: Caleb Gore, Katrina Stack, Morgan Steckler, Rose Shelor,
and Savannah Collins Key

Discussant: Kelsey Ellis

Location: Student Union 169

4:00 - 5:00 pm

Opening Keynote Speaker

Location: Student Union 377A

“Historical and Projected Hydroclimate Variability in the Circum-Caribbean”

Dr. Dimitris Herrera, University of Tennessee, Knoxville

The Caribbean Islands and Central America might suffer from increased aridity as a result of anthropogenic-driven climate change in the coming decades. Concurrently, many paleoclimate records suggest the occurrence of decadal and multidecadal droughts in the Circum-Caribbean region during the last millennium. Understanding drought variability, its trends, and dynamical causes are, therefore, critical for improving the resiliency and adaptation capacity of these regions, as well as to improving the predictability of hydroclimate extremes across spatial and temporal scales. Here, we present a review of the literature on Caribbean’s hydroclimate variability and its projected change. We highlight the limitations for assessing drought risk in the Circum-Caribbean, including constrains in the horizontal resolutions of current gridded climate products, both observational and modeled products. Between 1950 and 2016, there is a significant drying trend in the Caribbean as estimated from the “self-calibrating” Palmer drought severity index (scPDSI). Linear trends in scPDSI average a change of -0.09 decade⁻¹ ($p < 0.05$). However, this trend is not homogeneous, and significant trends toward wetter conditions are observed in portions of the Caribbean, which emphasize the importance of high-resolution climate data (e.g., 4 km) for assessing drought risk in the Caribbean Islands. We also find a strong influence of both tropical Pacific and North Atlantic oceans in modulating drought variability in the Caribbean and Central America, condition that prevails since at least the last millennium. Hydroclimate projections based on the “shared socio-economic pathway” (SSP) 5 scenario of the Coupled Model Intercomparison Project phase 6 (CMIP6) further suggest a significant drying ($p < 0.05$) for the Circum-Caribbean through the 21st century, with changes in precipitation, evapotranspiration, and scPDSI of -0.02 mm day⁻¹ decade⁻¹, 0.02 mm day⁻¹ decade⁻¹, and -0.17 units decade⁻¹, respectively. These results strongly suggest that the Caribbean is one of the regions projected to suffer from more severe and prolonged droughts as a consequence of anthropogenic climate change. However, the current climate models’ horizontal resolutions preclude a more accurate projection at local and regional scales.

Friday, February 10

Opens 8:00 am **Registration**
 Location: Student Union 169

8:30 - 9:30 am **Cultural Symbols and Geographies**
Session Chair: Abel Traslavina Arias, University of Tennessee, Knoxville
 Location: Student Union 169

***Presentation coauthors and abstracts for this session can be found on pages 10-11*

Umar Nizarudeen <i>University of Kerala</i>	The Horror and Beauty of Rajasthan's Spatial Matrix of Sustenance
Sukanya Das <i>University of Tennessee, Knoxville</i>	Women, healthcare, and domestic violence: A paradoxical fathom?
LJ McAllister <i>University of Kentucky</i>	"Through science to justice": Trans Geographies in DeSantis's America
Reagan Yessler <i>University of Tennessee, Knoxville</i>	Cosplay as Personal Expression in Restrictive Environments: An Autoethnographical Case Study on the Yamacon Anime Convention in Pigeon Forge, Tennessee

10:00 - 11:30 am **Geophysical Science**
Session Chair: Hannah Herrero, University of Tennessee, Knoxville
 Location: Student Union 169

***Presentation coauthors and abstracts for this session can be found on pages 12-14*

Claire Hilbrecht <i>University of Kentucky</i>	Clay bodies: Documenting tree bark through acts of noticing
Savannah Collins-Key <i>University of Tennessee, Knoxville</i>	Challenges, Troubleshooting, and Accessibility in the Field, Lab, and Beyond
Russ Limber <i>University of Tennessee, Knoxville</i>	Estimating Above Ground Biomass in Costa Rica using Sentinel-2 Multi-Spectral Images
Mason McVey <i>University of Tennessee, Knoxville</i>	Prehistoric Agriculture and Environmental Change from Lake Sediments: New Records from Laguna Bonilla, Costa Rica
Luke Blentlinger <i>University of Tennessee, Knoxville</i>	A 12,000-year sediment record of fire history from a Costa Rican grass savanna
Sally Horn <i>University of Tennessee, Knoxville</i>	Exploring Wetlands on the Eastern Highland Rim of Tennessee

11:30 am - 1:00 pm **Lunch**
Location: Student Union 270

1:00 - 1:45 pm **Poster Presentations**
Location: Student Union 262C

***Poster coauthors and abstracts for this session can be found on pages 15-19*

Cooper Corey <i>University of Alabama</i>	Are Some Cities Tornado Magnets?
Ella Hunter <i>University of Tennessee, Knoxville</i>	Towards a Climatology of Rapid Visibility Reductions in Heavy Snowfall
Jonathan Bell <i>University of Tennessee, Knoxville</i>	Understanding the Devastating Summer Flooding of Harlan, Kentucky
Madison Louis <i>University of Tennessee, Knoxville</i>	Parking Lots' Contribution to Urban Heat and Potential Mitigation through Vegetation in Knoxville, TN
Madlen Conley <i>University of Tennessee, Knoxville</i>	Eastern Red Cedar Trees Reveal Patterns of Land-Use History at the McGhee-Carson Site, Vonore, TN
Pragya Kandel <i>University of Tennessee, Knoxville</i>	Drought Susceptibility and Response Across Different Vegetation Types in California
Seth Kannarr <i>University of Tennessee, Knoxville</i>	Sense of Place in the World of Trench by Twenty One Pilots
Stephanie Insalaco <i>University of Tennessee, Knoxville</i>	Helping an Ecosystem in Crisis with Deep Learning and Survey Data
Surabhi Gupta <i>Mississippi State University</i>	Identification of seafloor gas seeps in sonar data to develop a machine learning detection database
Zachary Dorminey <i>University of Tennessee, Knoxville</i>	Assessing the Spatial Clustering of Permits in Davidson County, Tennessee

1:45 - 2:45 pm

Memory Work

Session Chair: Derek Alderman, University of Tennessee, Knoxville

Location: Student Union 169

***Presentation coauthors and abstracts for this session can be found on pages 20-21*

E. Arnold Modlin, Jr. Norfolk State University	A Changing Geography of Peer-to-Peer Online Language Instruction in the Age of COVID
Zach Gibson	“Scarring the Dragon’s Flesh:” Thomas Pynchon’s Mason & Dixon as Union Pacific Western
Bethany Craig <i>University of Kentucky</i>	Unsettled
Katrina Stack <i>University of Tennessee, Knoxville</i>	Tent/Freedom City on Exhibit: Making Ephemeral Space Permanent

3:00 - 4:00 pm

Closing Keynote Speaker and Hammond Lecture

Location: Student Union 169

“The Anti-Borders along the Wilderness Isles of Freedom”

Dr. Christy Hyman, Mississippi State University

Against all odds, enslaved people sought refuge in the Great Dismal Swamp. Freedom seekers established communities on mesic islands with elevations at or slightly above swamp level. Archaeologists have explored the maroon settlements established on these islands, and historians have discussed these communities in general terms. This talk discusses those journeys through studying diasporic exiles in relation to the plantations from which enslaved individuals liberated themselves. I argue that geospatial approaches within historical geography and analysis animate obscured geographies of containment revealing the range of antagonisms that enslaved freedom seekers faced in their journeys to freedom.

6:00 pm

UTK GeogGrads Social (USG)

All conference presenters and attendees, students and faculty are invited!

Location: Barley’s Taproom and Pizzeria

200 E Jackson Ave

Knoxville, TN 37915

Paper and Poster Abstracts

Housing and Agricultural Practices

“Examining housing experiences among International Students at UTK”

Rosemary Ayelazuno

As more and more students from across the world enroll in higher education to take advantage of the opportunities it offers, schools and universities are starting to address a problem that an increasing number of their students are experiencing, namely housing insecurity. With an increase in the number of students due to growing interest in higher education institutions, student housing has become a significant area of concern. More overseas graduate students are pursuing their degrees without regular access to their housing needs due to a lack of inexpensive and accessible housing, high tuition prices, and insufficient financial help. To better understand the distinctive lived experiences of students, this study examines the idea of precarity. It places a particular emphasis on accessibility, affordability, and discrimination, as well as how the fact that these students are international has exacerbated their experiences of housing precarity. The study will examine the difficulties that international students encounter in finding housing and shed light on these students' experiences and how these differ based on gender, race, and class, among other factors. It will also delve further into some strategies that international students use to assist one another in their search. The study's conclusion will include some recommendations that the University can use.

“From Public Housing to Vouchers: the impacts of redevelopment and forced displacement on low-income public housing residents”

Annie Liu, Solange Muñoz, Jeremy Auerbach, Marisa Westbrook

The redevelopment of traditional public housing units into mixed-income housing through public-private partnerships is a part of gentrification and displacement processes in US cities. In Sun Valley, a former public housing neighborhood in the heart of Denver, CO that has been redeveloped into mixed-income housing and mixed-use spaces, this paradigm shift has affected residents by altering perceptions and concepts of home and community, as well as perceptions of the future. Former public housing residents of Sun Valley who experienced the redevelopment process were interviewed using a semi-structured approach. Preliminary findings identified themes around gentrification, memories and perceptions of home, and uncertainties about the transformation and future of the community. This paper aims to explain the lived experiences of former public housing residents of Sun Valley and firsthand effects of displacement from their original homes into new physical, socio-spatial, and economic arrangements. We aim to analyze their experiences through the broader theoretical landscape of neoliberal housing policies and gentrification and the impact of these processes on displacement and marginalization of individuals and shifting notions of community and community cohesion.

“From Public Housing to Vouchers: the impacts of redevelopment and forced displacement on low-income public housing residents”

Rachel Noble-Varney

In July 2022, catastrophic flooding in eastern Kentucky once again catapulted a vision of distressed Appalachia to the center of national conversations around infrastructure, federal aid, and regional planning, reminiscent of the 1960s narratives that produced the Appalachian Regional Commission and related programs. Drawing from Clyde Wood’s concept of regional bloc and his references to the Appalachian bloc as a foil for the Mississippi Delta, this presentation will draw together cross-disciplinary critiques of the Appalachian Regional Commission to highlight multi-scalar resistance and acceptance of federal intervention. In contrast to the Delta, where the cotton industry served as a unified barrier to anti-poverty work, Appalachian resistance to federal programming was both spatially and temporally decentralized. Regional institutions from the coal industry to higher education welcomed federal investment in infrastructure, knowledge production, and healthcare while groups like the Black Appalachian Commission or grassroots organizers struggled to access federal funding. As activists, researchers, and scholars continue to advocate for racial, economic, and environmental justice in Appalachia, exploring not just the efficacy of regional planning initiatives, but also the narratives and power structures that grew up around those initiatives may provide fertile ground for understanding and redefining why, or if, region matters.

“Cultivating Sustainability in Children”

Lutfiyah Madyun

There is a clear and unsettling disconnect between the average person and their thoughts, views and interactions with the natural environment. Often people are severely detached from nature and the abundance of benefits that can be found within it. These behaviors are most often instilled during the formative and developmental years of children. As children are given electronic devices earlier and earlier, they tend to prefer them over playing outside. As a direct response I have proposed a Sustainable Action Plan to be seamlessly integrated into any K-12 public school curriculum. The purpose of this action plan is to bring awareness to sustainable practices that reconnect the youth to the natural world. The proposed practices can be easily adopted into everyday life while also, cultivating the next generation of environmentally conscious children. This action plan will establish the infrastructure to reduce food waste in schools, create a strong recycling program, teach children in grades K-12 the benefits of composting and create opportunities to utilize and sell the finished compost. Topics such as food waste, recycling, composting and mindful water and energy usage will be addressed in detail at the appropriate grade level and subject e.g., high-school biology classes will be able to learn about soil health conditions perfect for gardening. The final project will be to create a community garden funded by the sale of the compost. The community garden will tie together many concepts the children have learned while also creating a safe space to interact with and learn from nature.

“Grantwriting Ecologies of East Knoxville Urban Agriculture Nonprofits”

Kelly Sauskojus

In this presentation, I will be sharing initial findings from a dissertation focused on the relationship between writing process and human geographies. Through interviews, observations, and collected texts, my project presents three nesting case studies of the grantwriting practices of East Knoxville urban agriculture or community garden nonprofits. I want to understand all of the ways that different people contribute to three interrelated grants, whether through planning, research, conversations, drafting, or revisions, and I want to understand how the process of grantwriting, not just the finished text or the resources that may or may not be obtained, is related to the land of the farms and the gardens, these nonprofit institutions themselves, or relationships between nonprofit staff and researchers, volunteers, or the frequently-evoked and highly contested ‘community.’ During my two years working these nonprofits, I’ve seen that many of these nonprofit directors, staff, and volunteers, do not consider themselves writers, and so much of the work that happens towards a grant is highly communal, collaborative, and invisible in the final text of the grant, with lots of time spent walking around the land, sitting around and talking with other nonprofits and community members, and building relationships with the grant giving agencies. I particularly hope to explore how the many people who contributed to these grants balance or choose between official, quantitative, or university-led descriptions of East Knoxville versus local Black senses of place (McKittrick & Woods, 2007).

Weather, Networks, and Neighborhoods

“Evaluating spatial interpolation reliability for the Lot-level Assessment of Neighborhood Disorder (LAND) virtual audit tool”

Joshua Pepper, E.A. Shewark, C.J. Sivak, A.L. Pearson

Neighborhood disorder (e.g., broken windows, graffiti) has been shown to be related to deleterious resident physical and mental health outcomes. Consequently, quantification of disorder may be useful for targeting resources or measuring harmful exposures. However, a major challenge with its quantification is the intensive labor involved in either field observation or virtual auditing of each parcel or street segment. One promising solution is the interpolation of disorder across space, given a measured sample of spatially distributed known values. Interpolation methods can provide insightful predictions of values within recorded data points, but they may be less reliable in places with high levels of heterogeneity in disorder. In this study, we utilized the virtual audit tool (Lot Assessment of Neighborhood Disorder; LAND), where scores were determined on a lot level and aggregated to street segments. This process was completed for 710 lots and 355 street segments across 11 neighborhoods in Detroit, MI. We then implemented Inverse Distance Weighting (IDW) and kriging (ordinary, simple, and universal) spatial interpolation methods to measure which method was the most reliable for predicting LAND scores at unknown locations, reserving 80% of the coded lots for the interpolation and 20% for reliability testing.

“Machine learning of tornado-producing mesoscale storm in the Southeast U.S.”

Morgan Steckler, Kelsey Ellis, Hannah Herrero, Qiusheng Wu

In 2020, Tennessee ranked highest in the United States for natural hazard-related injuries, third in fatalities, and fourth in total damage costs. In the United States, natural disaster spending exceeded \$145 billion in 2021, the third costliest year on record. Social factors, such as old infrastructure, dated building codes, and rapidly expanding urban spaces, play a significant role in this recent upward spike in deaths and expenses from natural hazards. Coupled with 21st century socio-economic changes are shifts in the area and frequency of tornado-producing convective storms and outbreaks in the Midwest and southeastern United States. The objective of this work is to understand the underlying data structure and climatology of radar-derived, EF2+ tornado-producing, mesoscale storms and their attributes in the southeastern United States using unsupervised machine learning methods, which can then be used to inform supervised machine learning approaches to storm classification.

“A Climatology of Extreme Intensity Change of North Atlantic and Eastern North Pacific Tropical Cyclones Prior to Landfall”

Nicholas Grondin and Kelsey Ellis

The study examines the spatial and temporal attributes of extreme cases of tropical cyclone (TC) landfall intensity change (LIC), defined as the change in intensity in the final 12, 24, or 36 hours prior to landfall. We subset an interpolated best track dataset of North Atlantic (NATL) and eastern North Pacific (ENP) TCs from 1971–2020 and calculate LIC for each qualifying TC. We use the highest 10% of LIC cases to represent “extreme intensification” (EI) and the lowest 10% to represent “extreme weakening” (EW) for each time period inclusive of all qualifying TCs from both basins to build a climatology of landfall EI and EW cases. Our results show that EI cases predominantly come from the NATL, while EW cases tended to be more evenly split between the basins. We find that there is a statistically significant increase in the frequency of EI and a statistically significant decrease in the frequency of EW within twelve hours of landfall since 1971. The seasonal pattern of EI and EW cases is consistent with the overall seasonal pattern of NATL and ENP TC activity, although when normalizing the count of EI/EW cases for the number of landfalls per month, we fail to note a significant seasonal pattern in EI while the early and late season experience a greater percentage of EW cases. Results of this research provide context for recent EI/EW events, such as Hurricane Michael (2018) and Hurricane Patricia (2015).

“Beat the heat: Building adaptive capacity of vulnerable populations in Knox County to combined stressors from climate change and urban heat”

Kelsey Ellis, Jennifer First, Kristina Kintziger, Christopher Fuhrmann, Ella Hunter

Climate change and urbanization combine to cause excess heat for urban residents. During the day, the materials used in urban areas absorb heat, causing higher temperatures in areas with the greatest population density—a phenomena known as the urban heat island (UHI). At night, these surfaces retain this heat, causing an even greater UHI. In the Southeast United States, climate change is known to have caused more frequent and intense heat waves, as well as increased nighttime temperatures, thus exacerbating the UHI pattern. Some populations are particularly at risk for heat-related illness and injury, and the patterns of exposure and vulnerability likely change throughout the day with the strength of the UHI and availability of resources. This is an exploratory work assessing the diurnal rhythm of heat exposure and vulnerability in Knox County and methods for developing community-based strategies to address heat exposure and impacts. There are three main objectives for this work, including a climatological analysis, vulnerability analysis, and community partnership, for which preliminary results are presented. Upon completion, this study will be one of the first to assess nocturnal heat exposure and vulnerability, which is critical to understanding the effects of the UHI and climate change on vulnerable residents in the Southeast.

Cultural Symbols and Geographies

“The Horror and Beauty of Rajasthan's Spatial Matrix of Sustenance”

Umar Nizarudeen

Searing intensity, legends, sublime beauty and majesty, that is Rajasthan for you. From Udaipur and Ranthambhore to the ramparts of Jodhpur, every grain of sand tells an epic story of courage, valour, and sheer awesomeness in the face of adversity. The elites and the non-elites have come together to spin this tapestry that would put the Bayeux to shame. Integral to the conception of India, this sublime desert has forever enchanted the pilgrim and the tourist alike. It is the Mecca of forts for you. With the successful exploration for oil in Barmer, the region could have far reaching significance, going into the future. The mystique of the land of Marwar, lies in the way it effortlessly juggles between moolah and mullah, fact and fiction, the sublime and the mundane, the picaresque and the everyday. The JLF which now is an integral part of the bookaholic globetrotter's checklist, has come to define the kingly state to many. The festival which has a spectrum of options for participants, from the kingly to the penniless, has recently courted controversy for letting in the colour khakhi amongst its hoi polloi. The concerts, the ambience, the food, the music, the parties, the conversations and the entire shebang of kaleidoscopic cultural variety that seamlessly segues the global cultural macrocosm into Indic diversity helmed by the likes of Mughal historian Dalrymple and the immensely gifted Namita Gokhale, can hardly be accused of pandering to the West and selling poverty to the occident like bigger names before had done. Two kinds of literary pilgrims meet at JLF, the ones who alight at the Sindhi camp bus

stand hardly ever know those that touch down at the airport, or come by double decker train. Here we find that unique post-Soviet socialism where ivy league educated kids can be heard calling out, hey Keki, or Vikram, or Homi, or Chris. A merely bourgeois festival is uplifted by the presence of an immensely diverse group of wannabes from as far as Kerala and Karnataka. The list is endless. India has arrived, as these desert sands bear witness.

“Women, healthcare, and domestic violence: A paradoxical fathom?”

Sukanya Das and Madhuri Sharma

This article directs to fathom the health stand on a comprehensive concept and menstrual health and hygiene in a micro-level context of female household helpers in Guwahati, an urban metropolitan area in Assam, India. The study area pertains to the ethnic diversity of the tribal women in the urban city of Guwahati. An endeavor has been taken to delineate menstrual hygiene practices, access to healthcare, strategies to deal with health issues, reproductive justice, and contraceptive choices. Attempts have been made to understand the tampered gap of how there are circumscribed linkages between parameters like domestic violence, domestic equality, and patriarchy at a micro-level with that the health issues of women. On an inclusive note, it lines up to show the status of health of the women working as domestic house helpers. Condemnatorily, it also weaves showing how masculinity and patriarchy manifest their impact on it. There is the acumen for refinement in pre-determined domains. With the help of forty sample sizes based on random sampling, a scrutinization has been made on methodologies like semi-structured interviews and storyboarding. There is a high positive correlation that is seen to exist between the chosen parameters and the health of women. The life stories of women of such marginalized women portray the prevailing masculinity and lack of health awareness in the area.

“‘Through science to justice’: Trans Geographies in DeSantis’s America”

LJ McAllister

It is no secret that the current political climate in the United States has turned against trans people. Although Texas and Florida currently stand out for their hostility, violence against trans people is likely to continue escalating at the national scale as conservatives work to eradicate “transgenderism” from the map. The spatialities of transness are shifting, becoming simultaneously and contradictorily both invisible and hyper-visible, with the end goal of eradication. Such eradication has precedent, but so does resistance to it. In early-twentieth-century Germany, for example, the Institut für Sexualwissenschaft conducted research into the lives of homosexuals and “transvestites,” and although not all of their work survived World War II, they nonetheless succeeded in cementing the here-ness and now-ness of many queer people living in their time and place. Taking a lesson from the Institut and from McKittrick (2011), twenty-first century geographers have the opportunity to “re-imagine geographies of dispossession...as sites through which co-operative human efforts can take place and have a place” (960). The fullness of trans subjectivities – and their intersections with other ways of being – create their own “sense of place” that merits description. This paper makes an urgent call for geographers to move spatially and temporally “through science to justice”: to mark indelibly the fullness of queer lives.

“Cosplay as Personal Expression in Restrictive Environments: An Autoethnographical Case Study on the Yamacon Anime Convention in Pigeon Forge, Tennessee”

Reagan Yessler

Cosplay is a mode of dressing and acting where individuals not only costume themselves as a character, but act as said character (Geczy 2016). Cosplayers consciously abandon physical reality; in places of cosplay, such as conventions, cosplayers act as their characters, which may be different from their own identities not only in terms of appearance, but in gender identity and sexuality (Geczy 2016). My research explores how cosplay allows for the embodiment of transgender and homosexual identities that are repressed in socially conservative spaces; I explore the effect that a politically conservative area has on queer cosplayers, their community, and the places they cosplay. I employ an auto-ethnographic approach to document my experiences at the Yamacon Anime Convention in Pigeon Forge, Sevier County, Tennessee, where I have cosplayed for seven years. This space was a testing ground for my own queer embodiment, as I came to terms with my homosexuality and transgender identity within in a larger atmosphere of queer repression— an Appalachian American South area is dominated by White evangelicals who overwhelmingly voted for Donald Trump, supporting his platform of queer exclusion that reinforces the cisgender heteronormative White patriarchy (2020 Republican Party Platform Resolution; Best Places 2021). References: 270 to Win, 2021: “Tennessee.” <https://www.270towin.com/states/Tennessee>; Best Places, 2021: “Pigeon Forge, TN.” Best Places. https://www.bestplaces.net/voting/city/tennessee/pigeon_forge; Geczy, A. 2016: “The Psychology of Cosplay.” *Journal of Asia-Pacific Pop Culture*. 1, 1. 18–36.

Geophysical Science

“Clay bodies: Documenting tree bark through acts of noticing”

Claire Hilbrecht

Artmaking allows for the documenting, the archiving, and the mapping of those otherwise avoidable places. What does artmaking do differently for the documentation, archiving, and mapping of trees? Clay bodies document specific places on a tree’s bark. They are small. They are unimpressive from far away. They necessitate a closer look, much like the places they document. They are archives of living things, of ecosystems and ecological communities, of the moss, lichen, and pieces of bark that the clay ripped from the trunk, of the size and texture of the scars and in some cases, the shape of the trunk. They are frozen in time, yet there is a movement to their bodies. They are topographical, revealing of the tree’s ridgelines and waterways. What does it feel like to follow their features? To consider bark as landscape? Through the practice of pressing clay against the tree, I found hollow spaces I didn’t see before. The blank surface of the clay reveals things to be noticed. And acts of noticing make visible otherwise invisible features.

“Challenges, Troubleshooting, and Accessibility in the Field, Lab, and Beyond”

Savannah Collins-Key

One of the wonderful features of science is that even when things fail, they can still teach us something. There is typically tremendous pressure on graduate students and early-career scientists to produce only novel, earth-shattering results, and anything less is unpublishable and insignificant to overall scientific knowledge. Yet troubleshooting is a frequent and heavily underestimated part of the scientific process—we often learn more during the practice of performing research than from the actual results we present in a study. When we turn up with no results or fail to reject a null hypothesis, we are still contributing to our field as this knowledge can mold the next study, learning from what we discovered (or didn't discover). While in fieldwork, we experience the impulse to choose remote, untouched, and often difficult-to-reach landscapes when many times, this can be a physically or economically limiting feat. This can cause us to overlook other site possibilities that are more accessible but where the research questions may not be as provocative. The same can be said for conducting lab work exclusively in a lab environment when remote options are becoming more readily available. This talk will try to highlight how practicing science can be more accessible even in a few small ways, and how one can still contribute to their field without profound results, simply through what we learn along the way when conducting research.

“Estimating Above Ground Biomass in Costa Rica using Sentinel-2 Multi-Spectral Images”

Russ Limber, Jitendra Kumar, and Forrest M. Hoffman

To develop continuous, accurate and high resolution estimates of above ground biomass (AGB) in tropical forests we leverage and fuse remote sensing observations of structural complexity (Global Ecosystem Dynamics Investigation project (GEDI)) and canopy surface reflectance properties (Sentinel-2). GEDI uses space-borne lidar to measure forest structure and predict AGB between 51.6°N and 51.6°S latitudes. However, GEDI is expected to be active on the International Space Station for a relatively short period of time (about 5 years). We seek to extract the relationship between vegetation structural properties and canopy spectral properties using two rich data sources to enable the seasonally varying estimates of AGB. Multi-spectral images from Sentinel-2, are expected to have continued availability beyond the operational span of GEDI which can potentially add to our time series of AGB. We focus our study on tropical vegetation in Costa Rica. We collected data for ten high resolution (10m or 20m) bands from Sentinel-2 at monthly time frequency between July 2019 to October 2021. Reflectance data were filtered for noise/clouds and gap filled temporally using polynomial regression and spatially using a convolutional neural network. GEDI Level 4A footprint level AGB measurements and GEDI Level 2A footprint level observations containing canopy height profiles, were also collected within the same time frame. The level 4A data were used to train a long short-term memory (LSTM) neural network to estimate AGB using Sentinel-2 reflectances. Models were hyperparameter tuned using temporal cross-validation with mean squared error as the scoring metric. The results show that LSTM may have potential to estimate AGB using multi-spectral images.

“Prehistoric Agriculture and Environmental Change from Lake Sediments: New Records from Laguna Bonilla, Costa Rica”

Mason McVey, Sally Horn, and Chad Lane

Laguna Bonilla (9.9926N, 83.6019W, 380 m elevation) is a 31 ha lake on the lower Caribbean slope of Costa Rica. Northrop and Horn (The Holocene, vol. 6, 1996) recovered sediment cores from Laguna Bonilla and nearby Laguna Bonillita (6 ha), and developed pollen and microscopic charcoal records that revealed prehistoric maize agriculture, forest clearance, and fires. Radiocarbon dates showed the Bonillita record to extend back to about 2700 cal yr BP, but problems with radiocarbon dating left the ages for the Bonilla sediments uncertain. As a result, later analyses of stable isotopes and other proxy indicators that were carried out to expand upon the original pollen and charcoal records only used material from the Bonillita core. In new research, we are carrying out further analyses of two sediment cores from Bonilla to improve the chronology of the cores and develop datasets that we can compare to proxy datasets from Laguna Bonillita and other lakes in Costa Rica. By doing so, we will extend our understanding of the scale and timing of prehistoric agriculture and agricultural abandonment, and how this may relate to late Holocene shifts in climate. Here we focus on stable carbon isotope evidence of agriculture preserved in the Bonilla cores. Higher $\delta^{13}\text{C}$ values in our dataset are associated with an interval of high grass and sedge pollen percentages, maize pollen, and charcoal that we tentatively date to the centuries leading up to the Terminal Classic Drought (~1200-800 cal yr BP), based on matching charcoal:pollen ratios to the Bonillita cores.

“A 12,000-year sediment record of fire history from a Costa Rican grass savanna”

Luke Blentlinger

Laguna Bonilla (9.9926N, 83.6019W, 380 m elevation) is a 31 ha lake on the lower Caribbean slope of Costa Rica. Northrop and Horn (The Holocene, vol. 6, 1996) recovered sediment cores from Laguna Bonilla and nearby Laguna Bonillita (6 ha), and developed pollen and microscopic charcoal records that revealed prehistoric maize agriculture, forest clearance, and fires. Radiocarbon dates showed the Bonillita record to extend back to about 2700 cal yr BP, but problems with radiocarbon dating left the ages for the Bonilla sediments uncertain. As a result, later analyses of stable isotopes and other proxy indicators that were carried out to expand upon the original pollen and charcoal records only used material from the Bonillita core. In new research, we are carrying out further analyses of two sediment cores from Bonilla to improve the chronology of the cores and develop datasets that we can compare to proxy datasets from Laguna Bonillita and other lakes in Costa Rica. By doing so, we will extend our understanding of the scale and timing of prehistoric agriculture and agricultural abandonment, and how this may relate to late Holocene shifts in climate. Here we focus on stable carbon isotope evidence of agriculture preserved in the Bonilla cores. Higher $\delta^{13}\text{C}$ values in our dataset are associated with an interval of high grass and sedge pollen percentages, maize pollen, and charcoal that we tentatively date to the centuries leading up to the Terminal Classic Drought (~1200-800 cal yr BP), based on matching charcoal:pollen ratios to the Bonillita cores.

“Exploring Wetlands on the Eastern Highland Rim of Tennessee”

Sally Horn

Wetlands of various types occur in association with karst landforms in the Eastern Highland Rim physiographic province of Tennessee. A particular concentration exists on and near Arnold Air Force base in Tullahoma, where the wetlands have attracted attention because they support a number of disjunct plant and animal species, especially from the Gulf and Atlantic coastal plains. Forested wetlands on the site, for example, include stands of Water Tupelo and Overcup Oak, both coastal plain species. The more open swamps also support coastal plain disjuncts along with some northern bog plants. Many rare and endangered plant and animal species are also present. I will share my ongoing investigations of these wetlands and their sediments as sources of information on past vegetation, fire, and climate in Tennessee.

Poster Abstracts

“Are Some Cities Tornado Magnets?”

Cooper Corey

More tornadoes occur in the United States than any other country in the world. Although the majority of these tornadoes are relatively weak, violent tornadoes (EF4 or 5), can result in catastrophic damage and loss of life. While these events are rare, certain areas are more prone to experiencing violent tornadoes than others. One such possible tornado magnet, Tanner, Alabama, has experienced three F/EF5 tornadoes since the beginning of the record in 1950. This is an exceptionally high number given the national total is 59. The purpose of this project is to identify if certain cities' pattern of high-magnitude tornadoes can be replicated through the use of Monte Carlo-style simulations of random points. Four variations of the same test were replicated 1000 times each, where the number of points that fell into the specified buffer zone for each replication was recorded. For Birmingham, Moore, Tanner, or Tuscaloosa there was a <0.1% chance for the model to replicate their actual number of violent tornadoes. These results show that the pattern of violent tornadoes seen in these cities are unlikely to have occurred by random chance. These cities being tornado magnets could be the result of factors like the relationship between tornado frequency and ocean-atmospheric teleconnections, synoptic meteorological conditions, and/or land-surface heterogeneity. Regardless, future research continues to evaluate possible tornado magnets to determine how unique these places are and why violent tornadoes disproportionately affect these locations.

“Towards a Climatology of Rapid Visibility Reductions in Heavy Snowfall”

Ella Hunter, Andrew A. Rosenow, Heather D. Reeves, and Daniel D. Tripp

Sudden drops in visibility due to heavy snow significantly represents roadway hazards to drivers. Snow squalls, a subset of the meteorological phenomenon, cause these hazardous conditions. To mitigate the dangers of snow squalls, the National Weather Service (NWS) began issuing operational warnings in 2018. However, inconsistent definitions hinder the creation of a snow squall climatology. This study begins addressing the issue by looking at the geographical variability of sudden, snow-induced visibility drops. We examined five-minute Automated Surface Observation System observations from commercial airports across the continental U.S. from 2000 to May 2022 to find these sudden snow-induced visibility reductions. We define sudden visibility drops as events without snow in the hour preceding the onset and meet a specified minimum visibility threshold within the first hour of snow. The NWS has a warning criterion for snow squalls with a minimum visibility threshold of 0.4 km. Requiring this visibility to be reached within an hour of the first snow observation reduces the number of events per year by 66-90% from all events that meet the 0.4 km visibility threshold at any point during continuous snowfall. Sudden drops in visibility occurred most in the Intermountain West, Northeast, Great Lakes, and northern Plains. Increasing the visibility threshold to 1.6 km increased the number of sudden-visibility-reduction events per year fourfold to sixfold, with some regions seeing even greater increases. This underscores the importance of choosing the right thresholds for minimum visibility and the time required to reach this minimum before a climatology can be constructed.

“Understanding the Devastating Summer Flooding of Harlan, Kentucky”

Jonathan Bell and Mayra A. Román-Rivera

The town of Hazard, Kentucky was devastated by historic flooding in late July of 2022. The rainfall exceeded an estimated 600 percent of the town’s annual average over the course of 4 days destroying countless homes and businesses. This unlikely flooding event was assigned a probability of 1 in 1000. This project aims to analyze historic patterns of flooding and precipitation dating back to 1987, and the project also aims to compare the results with a flat indentation flooding model created in ArcMap & ArcGISPro.

“Parking Lots’ Contribution to Urban Heat and Potential Mitigation through Vegetation in Knoxville, TN”

Madison Louis, Hallee Casey, Cameron Flatford, and Merritt Philpot

As climate change progresses, there is likely to be an increase in heat waves in urban areas which poses a threat to all living in these areas. Urban areas face increased risk due to the Urban Heat phenomenon, which shows an increase in the absorption of short-wave radiation due to the concentration of built environments, such as pavements and buildings, which raises the temperature of urban areas compared to rural. This project was created in collaboration with Keep Knoxville Beautiful to quantify the heat of parking lots to show the benefits of increased green space. In order to do so, four parking lots within the Knoxville area were surveyed. The methods used were ground truthing and analysis of satellite data in ArcGIS pro of the parking lots observed. These results showed that more vegetation within parking lots will help to decrease the average land surface temperature. It also revealed that the surrounding areas of a parking lot have a larger effect on temperature than the vegetation within, which was observed at the Fresh Market Parking lot. This project was able to show that there is a clear difference in temperature between shaded

areas and those in direct sunlight. As well as the benefit of implementing more vegetation in and around urban areas to reduce heat.

“Eastern Red Cedar Trees Reveal Patterns of Land-Use History at the McGhee-Carson Site, Vonore, TN”

Madlen A. Conley, Matthew T. Kerr, Lauren F. Baghetti, Jacqueline N. Kerr

The McGhee-Carson site (35.5840° N, 84.1943° W, 283 m elev.) comprises the remains of the “Tuskega” antebellum plantation in Vonore, Monroe County, southeastern Tennessee. The site is now a mosaic of wildlife management plots and mixed hardwood-coniferous forests in various stages of succession. The area immediately surrounding the original main house, barn, and associated outbuildings consist of ca. 1.5 ha of residential landscape maintained by the Tennessee Department of Environment and Conservation and ca. 3 ha of forest, including young stands recently established in clearcut pasture and older stands that have been selectively harvested. Eastern red cedar (*Juniperus virginiana*) composes ca. 10% of trees of dendrochronological potential in this 4.5 ha patch. We cored and aged one large red cedar tree standing immediately in front of the main house that was planted as part of the landscaping and additional red cedar trees across the patch. The age of the planted red cedar establishes when landscaping was added and enriches cultural understanding of the lived experience at Tuskega. Ages from the additional trees provide temporal context for cultural choices, including landscaping, clearcutting, and selective cutting. Additionally, this group of tree cores allows us to explore the potential for an eastern red cedar tree-ring chronology for southeastern Tennessee.

“Drought Susceptibility and Response Across Different Vegetation Types in California”

Pragya Kandel, Bharat Sharma, Jitendra Kumar, and Forrest M. Hoffman

High temperature causes an increase in evapotranspiration, reduction of surface water and drying of soils and vegetation. The increasing temperature due to climate change can strengthen drought impacts on drought-affected regions. California has suffered from the worst drought recorded in history from 2011 to 2017, killing more than 100 million trees and impacting the state’s agricultural economy. Monitoring of evapotranspiration through the Evaporative Stress Index (ESI) from the Ecosystem Spaceborne Thermal Radiometer Experiment (ECOSTRESS) instrument provides important information about water demand and vegetation stress, which may offer early indications of drought. In order to study water stress on different types of vegetation and resulting climate feedback, we selected uniform regions in grasslands, shrubs, forests and croplands across California for analysis. The presented results consist of variation of ESI and PET across different vegetation types from the year 2018 to 2022. Correlation of evapotranspiration products with temperature and precipitation across vegetation types shows evapotranspiration change with respect to change in meteorological conditions. Results from this study provide better understanding of drought sensitivity across major California biomes for detecting the most drought susceptible vegetation.

“Sense of Place in the World of Trench by Twenty One Pilots”

Seth Kannarr

Since the release of their fifth studio album *Trench* in 2018, American musical duo Twenty One Pilots have captivated fans with songs and lore that have created and explored a fictitious world known as Trench. Home to the dark city of ‘Dema’, the nine bishops that rule it, and the escaped outsiders known as ‘Banditos’, the continent of Trench serves as the setting to the experiences of Clancy, the mysterious protagonist who attempts escape and an uprising by captured citizens of Dema. The narrative and visual details of *Trench* and follow up 2021 album *Scaled and Icy* simultaneously provide a larger metaphor for the real world struggles of overcoming mental health issues, as well as produce an engaging, overarching story for listeners to follow and enjoy. Through document analysis of song lyrics, music video imagery, and supplemental lore provided via the hidden Twenty One Pilots website known as ‘dema.org’, I seek to provide an explorative account of how the worldbuilding and storytelling by Twenty One Pilots produces a strong geographic sense of place that enhances the immersion, meaning, and appreciation of their recent discography for fans and listeners.

“Helping an Ecosystem in Crisis with Deep Learning and Survey Data”

Stephanie Insalaco, Russ Limber, and Dr. Hannah Herrero

The ecosystem in Mosquito Lagoon, Florida has been declining rapidly since the early 2000s. Included in this ecosystem decline, is a detrimental loss of seagrass coverage. Many species in the lagoon depend on seagrass to survive, but there are also other factors affecting the overall health of the lagoon like nutrient-overloading, algal blooms, and other human activities. To study this decline, we implement a deep learning (fully connected neural network) classification to look at the seagrass coverage from 2000 to 2022, as well as a qualitative survey that has been sent out to the guides in the lagoon. Fishery activities bring in a significant amount of revenue for the surrounding area. But when an ecosystem is seeing a drop in the number of species present, current charter guides or fishermen are not able to survive off of the little amount of fish within the lagoon. The survey covers topics from fisheries, seagrass, policy, and the economy in order to understand the state of the lagoon from the viewpoint of guides who have worked in the lagoon for years. With these two studies, we are able to understand the extent of seagrass loss in the past couple decades, in addition to how this decline has impacted the surrounding ecosystem and economy.

“Identification of seafloor gas seeps in sonar data to develop a machine learning detection database”

Surabhi Gupta

Seafloor gas seeps, which discharge methane gas into the ocean, are found on continental margins globally. They are an important component of the global marine biogeochemical cycle but their quantity and distribution are not well understood. Notably, seeps contribute to ocean acidification and deoxygenation. Additionally, they are biodiversity hotspots for benthic ecosystems, a demonstrated energy production resource, and a potential marine geohazard. Hence, it is important to identify these seeps but the current method used to discover them is manual visual detection of seep bubble plumes in sonar data by trained individuals, which is costly and time consuming. Here we develop a database of identified seeps to train machine learning algorithms to automatically detect gas seeps in sonar data. We developed MATLAB code to process and display multibeam sonar fan beam water column imagery as well as to label rectangular portions of the images containing seep plumes. So far, we have labeled and classified the presence or absence of seeps in over ten thousand sonar images. Additionally, we have collaborated with computer engineering colleagues to develop a machine learning framework for seep identification from the identified and labelled seep database. Machine learning algorithms enabled by this database will create a broadly applicable ocean exploration technology that will increase the efficiency and accuracy of seep discovery while also decreasing cost and personnel requirements. Furthermore, it will improve our understanding of these dynamic ocean features and subsequently, associated seafloor environmental and ecological processes.

“Assessing the Spatial Clustering of Permits in Davidson County, Tennessee”

Zachary Dorminey and Nicholas Nagle

This study aimed to examine the clustering tendency of right of way permits in Davidson County, Tennessee. The work of this study is intended to aid future exploration of permit behaviors, to enable investigations of the clustering nature of certain activities relative to the density of neighboring addresses. Using an RShiny app for the execution of the analysis in this study, right of way permit locations were compared to the spatial distribution of addresses across the county. Road intersections were used as a proxy for addresses as the control data set. Using a proxy for addresses as a control removed the possibility for clustering behaviors to be explained away by address distribution. Ripley's K functions were used to approximate clustering patterns for both the control group (road intersections) as well as the data set of interest (right of way permits). The difference of these two K functions (commonly referred to as the D function) can be used to explain the significance of clustering patterns of permits and their corresponding activities. The study found that as different subsets of permits were analyzed for significant clustering, some permit types cluster in a similar and expected fashion to road intersections, while some display significant deviations from the clustering of the control. Through development of the RShiny app, the methodologies of comparison outlined above are repeatable for other exploratory research that asks the question “Does a given data set of points cluster in a manner different than the addresses in Davidson County, TN?”

Pedagogy and Memory Work

“A Changing Geography of Peer-to-Peer Online Language Instruction in the Age of COVID”

E. Arnold Modlin, Jr. and Yudinel Melina Valdez Caraballo

The rapid COVID-related adjustments that started in earnest during the first quarter of 2020, while having global affect, unfolded differently at the levels of resolution down to the hyperlocal. In quick reaction to some of the impact of lockdowns and other physically (and socially) isolating practices, many educational institutions and individuals turned to online instruction. Seen by some as enabling technologies, online educational tools also amplified many already existing inequalities. In this presentation the authors focus on one of the less-explored areas of online learning – that of online language instruction by tutors and teachers working as independent contractors doing instruction that is not associated with specific schools or universities. We look at some of the tensions between how an already-existing online language instruction site that grew quickly starting in March 2020 both serves as an economic lifeline for many after COVID lockdowns started and a part of a structure that reenforced already-existing inequalities. Using semi-structured interviews and data collected about price per hour costs of online Spanish lessons by tutors in various countries, we explore the geography of language instruction online and point out some directions that need to a fuller exploration through a geographic lens.

“‘Scarring the Dragon’s Flesh:’ Thomas Pynchon’s *Mason & Dixon* as Union Pacific Western”

Zach Gibson

In *Call me Ishmael*, Charles Olson argues that space is “the central fact to man born in America.” Space, writes Olson, “has a stubborn way of sticking to Americans.” Geography works itself into the American psyche from outside-in; Americans “must go over space” or “wither.” Frank Gruber ties this compulsion for territorial penetration into his taxonomy for the western novel. Gruber’s “Union Pacific story” is a subgenre that tracks the “construction of a railroad, telegraph or stagecoach line.” Union Pacific westerns draw upon the American need to “BRIDGE” the coasts by way of “caravel, prairie schooner, national road, railway [or] plane,” that Olson sees as key to foundational American mythology. Thomas Pynchon’s *Mason & Dixon* examines the western frontier as “the Rubbish-Tip for all subjunctive Hopes.” The novel follows Jeremiah Dixon and Charles Mason’s plotting of the Mason-Dixon line “due west, in order to separate two Proprietorships.” *Mason & Dixon* parodies Gruber’s Union Pacific narrative to undermine two essential tenants of American myth: Enlightenment faith in “triumphs of the machine” and the frontier “will to overwhelm nature.” The project marks a paradigm shift that led to the closure of untapped potential. Unlike “boundaries [that] follow Nature, Mason and Dixon’s unnatural “right Line” subordinates nature to human will. For Pynchon, the line marks the “winning away from the realm of the Sacred,” and the co-opting of borderlands to the “bare mortal world that is our home, and our Despair.” To Pynchon, the survey of the Mason-Dixon Line was not the first step toward a scientifically enlightened utopia, but instead the first subdivision of nature that culminated in the land parceling of corrupt 20th century real estate developers. Using Olson’s theoretical work on space, this paper will explore how *Mason & Dixon* undermines the heroic taming of territory fundamental to western myth by demonstrating that it is a self-consuming falsehood.

“Unsettled”

Bethany Craig

It is not a novel concept that geography is the most personal thing we experience in life while also being heavily communal as we experience it within multiple layers of geographical materials and imaginations. These layers, speaking in conversation with and taking inspiration from King’s Black shoals, are ‘liminal, indeterminate, and hard to map’ (King 2019: 3). As an ecological region the shoal is composed of both land and sea, the unstable grounds of two worlds blending acts as an in-between requiring ‘new footing, different chords of embodied rhythms, and new conceptual tools to navigate its terrain—it is a place where an adjustment must be made in order to move forward in the voyage.’ (King 2019). The shoal is where I situate myself. It is where I question from, where I build upon, and where I ask people to encounter other bodies in alternative ways. As such, I ask us to engage together—to situate our own bodies as geographic actors. Situate yourself as a personal and intellectual agent with ties to this work, which ties to those who shared their stories on the pages before you. Think of a scar on your body, I imagine a specific one or two come to your immediate consciousness. You remember it, feel it, it gives meaning to you as you give meaning to it. The scar in its materiality on the body acts as a retrieval cue (Cherry 2022, Matta 2021). This cue incites a memory that has a place, sounds, smells, and time. The scars on

our bodies act as repositories of memory, time, space, and place. It altered you, imprinted feeling on you, memorialized a time and place on you: 'you will never be the same again' (BBC News 2022).

“Tent/Freedom City on Exhibit: Making Ephemeral Space Permanent”

Katrina Stack and Derek H. Alderman

In late 1965, Black activist communities in Lowndes County, Alabama and their SNCC allies built a “Tent City,” also known as Freedom City, on Black-owned land to provide housing to sharecroppers and tenant farmers evicted by landowners in retaliation for marching, attending mass mobilization meetings, and registering to vote. Intended to be impermanent in nature and disbanded two years after its creation, the Tent City existed to ensure Black registered voters remained in the majority Black county. Situated intentionally on Highway 80 between Selma and Montgomery, “where the world could see what’s going on,” according to SNCC leader Stokely Carmichael, Tent City became an example of crucial alternative, fugitive infrastructures that characterized many aspects of the Civil Rights Movement. Yet, Tent City has largely been absent from the popular remembrance of the struggle for the right to vote, often eclipsed by the more commemorated Edmund Pettus Bridge. Part of this neglect is due the politically selective way the Movement has been narrated and the difficulty of preserving and interpreting more ephemeral spaces. An exhibit in the Lowndes County Interpretive Center, a National Parks Service site, depicts Tent City, creating a more permanent display but perhaps also altering the impression and understanding of the daily struggles endured by those who called Tent City “home.” Emphasizing the importance of re-centering occluded places and people in the public history discourse, we also consider how the exhibits and structures create more permanent representations of impermanent spatial and social practices, while complicating prevailing memory narratives.