Middle States Division American Association of Geographers

Annual Meeting

October 29-30, 2021 Virtual Host: Rutgers University

The Meeting at a Glance

Friday, October 29th

12:00 - 12:15 PM	**Opening Remarks** and Virtual Conference Overview: **Welcome** from Dr. Kevin St. Martin, Chair, Department of Geography, Rutgers University **Overview** from Dr. Nate Gabriel, Department of Geography, Rutgers University, 2020 Middle States AAG President
12:20 - 1:40 PM	**Paper Session 1: Urban Geography** and **Paper Session 2: Health Geography and COVID-19**
1:50 - 2:50 PM	**Poster Session**
3:00 - 4:00 PM	**Plenary Speaker: Mabel Gergan, Asian Studies Department, Vanderbilt University** — The Universal meets the Himalayan Particular: Racialization and Environmental Knowledge in the Himalaya
4:10 - 5:00 PM	**Workshop:** Graduate school is for you! Workshop for undergraduates and master students and **Facilitated Networking and Happy Hour**
5:10 - 7:00 PM	**Mapathon** — Humanitarian and Community-oriented Mapping

Saturday, October 30th

8:15 - 8:30 AM	**Welcome Back**
8:30 - 9:30 AM	**Poster Session**
9:40 - 11:00 AM	**Paper Session 3: Physical and Environmental Geography** and **Paper Session 4: Critical Geographies**
11:10 - 12:10 PM	**Keynote Speaker: Emily Yeh, Department of Geography, University of Colorado Boulder; President of the American Association of Geographers** — Pests, Keystone Species and Hungry Ghosts: The Gesar Epic and Human-Pika Relations on the Tibetan Plateau
12:20 - 1:20 PM	**Geography Bowl**
1:30 - 1:45 PM	**Closing Remarks**

Schedule of Presentations

Day 1

Friday, October 29th 12:20 - 1:40 PM

Paper Session 1: Urban Geography

12:20 - 12:35 PM	Kevin Rogan, Rutgers University - Newark: *"A Universe of Rented Spaces Haunted by a Nowhere": Problems and Praxis in Urban Ground Rent*
12:35 - 12:50 PM	Moira Conway, Kutztown University of Pennsylvania: *Examining the Impacts of Warehousing and Distribution Centers in Berks County, PA*
12:50 - 1:05 PM	Ooha Uppalapati, Rutgers University, New Brunswick: *Regulating in increments : studying planning mechanisms responding to basement conversions in New York City*
1:05 - 1:20 PM	Jayati Narain, Rutgers University: *Urban Thresholds and the Right to the City*
1:20 - 1:35 PM	Megan Heckert*, West Chester University; Shannon Hoffman*, West Chester University: *Mapping night-time temperature variations in green stormwater infrastructure*

Paper Session 2: Health Geography and COVID-19

12:20 - 12:35 PM	Jonathan L Kappel, University at Albany, SUNY: *COVID-19 Health Disparities: Minorities of New York City*
12:35 - 12:50 PM	Josh Marcinik*, West Chester University; Tim Callahan, West Chester University: *Seen and Unseen Supply Chain Disruption: Exploring Mid-Pandemic Container Trade Volume and Truck Collisions in Philadelphia, Pennsylvania*
12:50 - 1:05 PM	Logan Gerber-Chavez, University of Delaware: *How do we plan for compound hazards? Current state emergency plans conceptualizing modern disaster*
1:05 - 1:20 PM	Macy N Turner*, Kutztown University; Michael Davis, Kutztown University: *Adult Diabetes Prevalence in Urban Heat Islands: A Case Study of Philadelphia, Pennsylvania*

Friday, October 29th 1:50 - 2:50 PM

Poster Session

Dustin Braden, University of Delaware: Comparing Satellite-Derived Forest Estimates in Mexico for Carbon Monitoring Systems

Summer Looney, General Douglas MacArthur High School; Erin R Lung, General Douglas MacArthur High School: Nature Area Place Attachment of Levittown Residents During the COVID-19 Pandemic

Trang Luong*, Montclair State University; Dileep K. Birur, Montclair State University; Pankaj Lal, Montclair State University: Impact of COVID-19 Pandemic on Tourism in Vietnam

Archana Prasad, Montclair State University; Pankaj Lal, Montclair State University; Bernabas Wolde, Clean Energy and Sustainability Analytics Center (CESAC); Michelle Zhu, Montclair State University; Bharath K Samanthula, Montclair State University; Nicole Panorkou, Montclair State University: Impacts of the ACMES STEM Intervention Summer Camp on Adolescents Age 10-13

Lauren Rosa-Rosa, University of Puerto Rico- Río Piedras Campus: Land use contestations over state-led efforts to privatize beaches in PR post-María

Nawal Shoaib*, Montclair State University; Meghann Smith, Montclair State University; Pankaj Lal, Montclair State University: Life Cycle Assessment of an offshore wind farm in New Jersey

Abby Wheeler, Kutztown University: Urban Change and Development: How Energy Consumption is Changing in the Lehigh Valley

Jing Xiao, Rutgers, The State University of New Jersey; Åsa K Rennermalm, Rutgers, The State University of New Jersey; Sasha Leidman, Rutgers, The State University of New Jersey; Federico Covi, University of Alaska Fairbanks; Regine Hock, University of Alaska Fairbanks, Oslo University: Can a single core represent the conditions of a site? – Local spatial variability in firn properties in Southwest Greenland

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Friday, October 29th 3:00 - 4:00 PM

Plenary Speaker: **Mabel Gergan, Asian Studies Department, Vanderbilt University** — The Universal meets the Himalayan Particular: Racialization and Environmental Knowledge in the Himalaya

Friday, October 29th 4:10 - 5:00 PM

Workshop: *Graduate school is for you! Workshop for undergraduates and Masters students*

Hosted by: Katherine Cann, Alana Rader, Asa Rennermalm, Louise Sun, and Jing Xiao, Department of Geography, Rutgers University

Facilitated Networking and Happy Hour.

Join one of the following:

GIS/Remote Sensing

Human Geography

Physical Geography

Friday, October 29th 5:10 - 7:00 PM

Mapathon *Humanitarian and Community-oriented Mapping*

Hosted by: Noam Aharon, Julia Marino, Miguel Romero, Madison Roveda, and Louise Sun, Department of Geography, Rutgers University

Day 2

Saturday, October 30th 8:30 - 9:30 AM

Poster Session

Gita Bhushal Adhikary, Montclair State University; Pankaj Lal, Montclair State University; Bernabas Wolde, Montclair State University; Pralhad Burli, Idaho National Laboratory: Incidence of Human Wildlife Conflict and Likelihood of Reporting Losses: The Case of Banke National Park, Nepal

Leonardo Calzada*, Rutgers University; Rebecca L Selden, Department of Biological Sciences, Wellesley College; Kaycee Coleman, Oyster Recovery Partnership; Talia Young, Department of Environmental Studies, Haverford College; Kevin St. Martin, Department of Geography, Rutgers University: What is a port without its vessels? – Decline and Consolidation in the Fishing Ports of the Northeast

Mary Kenny, Montclair University: Spatial Analysis of Community Solar in NJ

Matthew LaSusa, General Douglas MacArthur High School: A Comparison Between the Ways Different New Yorkers Practiced Recreation and Leisure During New York Pause

James Luma, Kutztown University: Comparing Flash Flood Events Between Coastal New Jersey and Eastern Pennsylvania from 2015 to 2020

Joseph Norvilas, Kutztown University of Pennsylvania: Community Gardens as an Effective Way to Reduce Crime Rates in New York City

Nicole Provost*, Clean Energy & Sustainability Analytics Center, Montclair State University; Pankaj Lal, Clean Energy & Sustainability Analytics Center, Montclair State University; Bernabas Wolde, Clean Energy & Sustainability Analytics Center, Montclair State University: Understanding How Beach Proximity Affects Property Sales in New Jersey: A Hedonic Analysis Approach

Eileen Zhao, North Shore High School; Jase Bernhardt, Hofstra University: Effectiveness of Call-to-Action Warnings on Flash Flood Decision Making

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Saturday, October 30th 9:40 - 11:00 PM

Paper Session 3: Physical and Environmental Geography

9:40 - 9:55 AM	Christopher A Badurek, SUNY Cortland: *Integrating UAS and Geotech Courses with STEM Entrepreneurship Training*
9:55 - 10:10 AM	Sasha Z Leidman*, Rutgers University; Asa K Rennermalm, Rutgers University; Rohi Muthyala, Rutgers University; Alexander Getraer, Princeton University; McKenzie Skiles, University of Utah: *Seasonal Evolution of Supraglacial Floodplains on the Greenland Ice Sheet*
10:10 - 10:25 AM	Michael Davis, Kutztown University of Pennsylvania: *Level Up! The Evolution of Environmental Themes In The Video Game Industry*
10:25 - 10:40 AM	Eliza Leal, Colgate University: *Road to Reclamation: The Impact of PGIS Efforts in the Amazon*
10:40 - 10:55 AM	Paul Marr*, Shippensburg University; Sean Cornell, Shippensburg University Dept of Geography-Earth Science; John Wah, Matapeake Soil Consultants; Katherine Peresolak, McCormick Taylor Engineering; Robert Joyce, Shippensburg University Dept of Geography-Earth Science: *Test Pit Excavations at the Green Cabin Quarry Site (36AD0569), South Mountain, Pennsylvania*

Paper Session 4: Critical Geographies

9:40 - 9:55 AM	Tyler G Young, Rutgers Geography: *Towards a decolonial diverse economies approach? A critical commentary on Lindsay Naylor's Fair Trade Rebels*
9:55 - 10:10 AM	Justin D Mullikin, Rutgers University. *Performative Governance and Agrarian Change in Rwanda*
10:10 - 10:25 AM	Ibipo Johnston-Anumonwo, State University of New York at Cortland: *Inclusive Pedagogy in Undergraduate General Education Geography Courses*

10:25 - 10:40 AM Ivana M Mulcahy, Manhattan College: *The Transgressed Body: Coping in a Patriarchal System*

Saturday, October 30th 11:10 - 12:10 PM

Keynote Speaker: **Emily Yeh, Department of Geography, University of Colorado, Boulder; President of the American Association of Geographers —** Pests, Keystone Species and Hungry Ghosts: The Gesar Epic and Human-Pika Relations on the Tibetan Plateau

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Saturday, October 30th 12:20 - 1:20 PM

Geography Bowl

Paper Abstracts

Christopher A Badurek, SUNY Cortland: Integrating UAS and Geotech Courses with STEM Entrepreneurship Training

We report on a project linking students from GIS and GPS courses with two Computers & Society classes to develop drone startup business ideas. Students worked in teams to develop drone startup business ideas to present to alumni judges with related expertise. Firstly, students received training and coaching on lean startup methods to develop viable proposals from a professor with NSF I-Corps training and a professor with extensive computing business experience. Secondly, teams received instructor feedback and refined their ideas. Next, students delivered their concepts in a 'pitch contest' event held at the end of the semester featuring guest judges, university alumni working in geotechnical or STEM business careers. Based on results from student surveys, we provide conclusions on the effectiveness of this interdisciplinary teaching method in terms of accomplishing learning outcomes, engaging students via teleconferencing, collaborative team project work, and developing students' general skills related to STEM careers.

Moira Conway, Kutztown University of Pennsylvania: Examining the Impacts of Warehousing and Distribution Centers in Berks County, PA

Berks County, PA has become a center of warehousing and distribution in recent years. A great increase in e-commerce activity, as well as the county's large amounts of low-cost land and proximity to large metropolitan areas, make it attractive location for development. These new facilities have brought jobs to the region, but also challenges, such as traffic, pollution, and changing land uses. Using GIS analysis, this project seeks to understand the growth of jobs, as well as the traffic and land use changes implemented. Through these results, we seek to inform policy and planning decisions in the county and other areas undergoing warehousing growth.

Michael Davis, Kutztown University of Pennsylvania: Level Up! The Evolution of Environmental Themes In The Video Game Industry

The video games of the early 1990s have an appreciable depth of environmental tones that seem prophetic by today's standards as climate change and environmental degradation have emerged as significant topics of scientific and geographic inquiry. The political and cultural environment of the late 1980s and early 1990s played a significant role in the development of environmentally-minded video games. Since the 20th century, the depiction of these environmental themes have changed with a greater understanding of environmental science literature, have incorporated educational qualities to game play, and have migrated from large video game developers (e.g., Sega and Nintendo) to independent developers (e.g., thatgamecompany and Plethora Project). An overview of the evolution of environmental themes in video games is presented by examining individual games along with trends in the video game industry.

Logan Gerber-Chavez, University of Delaware: How do we plan for compound hazards? Current state emergency plans conceptualizing modern disaster

Phenomena such as climate change, COVID-19, long-term environmental pollutants, and urbanization are increasing the probability of hazards occurring simultaneously or in sequence – creating a compound hazard. The way governments plan for compound hazards needs to be different from how it plans for independent hazards, but there is little research on whether or how this is done. This study examines the depth of formal state planning for compound hazards across the United States. State emergency management plans are evaluated based on whether and how they address simultaneous hazards, cascading hazards, and environmental justice. Results indicate that 43 of 51 state and territorial disaster plans mention compound hazards in some capacity in at least one sentence of their plan; even fewer (19) discuss the implications of compound hazards or establish a plan to deal with them and only 5 include more than one sentence of actionable procedures. The study concludes with a recommendation that future plans should not only acknowledge the possibility of compound hazards but recognize the common occurrence of such events, identify the variety of interactions that are possible between hazards, and establish plans for how to prioritize resources and personnel that will inevitably be in short supply in the event.

Megan Heckert*, West Chester University; Shannon Hoffman*, West Chester University: Mapping night-time temperature variations in green stormwater infrastructure

The health effects of elevated heat can be severe, and they are not distributed evenly across populations or across neighborhoods. In Philadelphia, temperatures can vary by more than 20 degrees between neighborhoods, due to variations in both tree canopy cover and dark-colored paved surfaces. Strategic management of green infrastructure, particularly green stormwater infrastructure (GSI), may present an opportunity for Philadelphia to mitigate the UHI effect. A collaboration between Jefferson University and West Chester University is using low-cost temperature sensors to map fine-scale variations in temperature surrounding green stormwater infrastructure to determine the magnitude and extent of overnight cooling that different forms of GSI might offer.

Jonathan L Kappel, University at Albany, SUNY: COVID-19 HEALTH DISPARITIES: MINORITIES OF NEW YORK CITY

At the onset of the COVID-19 Pandemic, researchers and government officials were overwhelmed with the task of adjusting a thriving and vibrant way of life into that of a dormant and secluded lifestyle. Stay-at-home orders were enforced to curtail the spread of the virus. The virus had a profound effect on the world, as infection and death rates began to soar worldwide. As New York City (NYC) is home to over eight million residents of varying ethnic and racial backgrounds, which has their established health disparities. These disparities have been further intensified by this pandemic. The overall goals of this analysis are to better understand the socio-spatial patterns of COVID-19 in the United States' largest city. Geographically Weighted Regressions (GWR) help us to investigate underlying Minority Health Disparities (MHD) related to the COVID-19 outbreak in New York City until August 2020. Based on available data, this study examines all five boroughs at a ZIP-code level. Results show that spatial factor such as the

density of MTA stops within an area contributes to both COVID-19 infection and related death. Along with analyzing three primary minority groups, this study further shows the distinctive differences between those who are native-born, and those who are foreign-born in the same ethnic group.

Ibipo Johnston-Anumonwo, State University of New York at Cortland: Inclusive Pedagogy in Undergraduate General Education Geography Courses

Transformational learning about equity, justice, inclusivity and diversity can take place in compulsory General Education undergraduate courses taken by non-geography majors. Teaching about ethnic, race or gender-based discrimination by using accessible content grounded in an intersectionality framework that underscores overlapping forms of marginalization can be particularly engaging for students. The presentation shares some teaching practices, resources, materials and activities that are developed for use in and outside the classroom. Methods that are successful in making students address ongoing issues of racism, sexism and other structures of inequity are discussed using a variety of US-based and international examples relevant for geography educators.

Eliza Leal, Colgate University: Road to Reclamation: The Impact of PGIS Efforts in the Amazon

The news surrounding the plight of indigenous groups in the Amazon reference the dark political reality of this region. Though indigenous groups lack sufficient agency because of the infringement of their rights by figures like President Jair Bolsonaro of Brazil, notorious in the news for his discriminatory rhetoric, one form of resistance to this rhetoric and the destruction of their lands comes in an unexpected form: Participatory Geographic Information Systems (PGIS). For indigenous populations, PGIS has helped in the past with the establishment of land rights claims, the production of resource management plans, and the preservation of traditional knowledge. One of the most poignant questions raised that has made its way into the mainstream includes who has agency to dictate the division of these indigenous lands. Community empowerment in the form of PGIS initiatives has allowed indigenous groups within the Amazon region to dictate which lands are theirs without the involvement of outside juridical perspectives and has overall promoted a positive transformation in the forms of resistance indigenous populations can use. This paper first explores the historical underpinnings of indigenous land conflict in the Amazon region, followed by how PGIS impacts political, social, and environmental spheres of influence. To better display the consequences of successful PGIS efforts, this review addresses advancements PGIS efforts have had in the reclamation of indigenous lands thus far through the analysis of two case studies of successful land reclamation efforts in the Amazon regions in Peru and Brazil.

Sasha Z Leidman*, Rutgers University; Asa K Rennermalm, Rutgers University; Rohi Muthyala, Rutgers University; Alexander Getraer, Princeton University; McKenzie Skiles, University of Utah: Seasonal Evolution of Supraglacial Floodplains on the Greenland Ice Sheet

On the surface of the Greenland Ice Sheet supraglacial stream channels, especially those with abundant floodplains with consolidated cryoconite sediment, significantly contribute to meltwater production. These sediments disproportionately lower the albedo and therefore, studying their spatial extent throughout the melt season can inform predictions of global sea level rise. However, little is known about the distribution of supraglacial sediment, or how it changes in response to seasonal flow regimes. To address this issue, we surveyed a supraglacial stream network in Southwest Greenland, collecting imagery from seven drone flights over the course of 24 days in 2019. Orthomosaics and digital elevation models derived from the imagery using Structure-from-Motion were used to manually digitized the banks of the supraglacial stream channels, classify the sediment deposits, and determine the amount of incoming solar radiation exposed to sediment within and out of the stream. Our results show that 74% of sediment cover is found within stream channels and its deposition is highly correlated with stream width, suggesting that sediment can widen stream channels or darken previously widened channels. Wider sections of stream receive more radiation leading to greater melting within supraglacial floodplains. Additionally, the concentration of stream sediments increased in August after the seasonal peak flow, suggesting that as stream power decreases, more sediment accumulates in supraglacial channels. This study shows in unprecedented detail where and when supraglacial floodplains, and the microbiomes they contain, grow in response to warming and how these deposits could potentially impact the ice sheet surface energy balance.

Josh Marcinik*, West Chester University; Tim Callahan, West Chester University: Seen and Unseen Supply Chain Disruption: Exploring Mid-Pandemic Container Trade Volume and Truck Collisions in Philadelphia, Pennsylvania

With increased world dependence on intermodal maritime transport, ports and associated supply chain nodes have experienced stresses resulting from COVID-19. This study begins an initial assessment of the potential second order effects of COVID-19-induced supply chain disruptions in Philadelphia, Pennsylvania by examining potential connections between heavy truck traffic collisions to shipping weight of trade (SWT) for containerized imports and exports. Data for container terminal locations, traffic collisions, and containerized import and export SWT from January 2019 through December 2020 were collected. Spatial analysis using geographic information systems (GIS) was employed to identify heavy truck crashes in proximity to container terminals in the City of Philadelphia. Exploratory data analysis demonstrates that while overall traffic collisions decreased from 2019 to 2020, collisions involving heavy trucks increased during the same period while simultaneously exhibiting changes in spatial clustering. Lastly, multiple forms of statistical analysis were employed to quantify relationships. The results reveal a moderate positive relationship between total monthly heavy truck crashes and SWT. However, they suggest that collision proximity to Philadelphia ports has a relatively weak association with monthly SWT values. While SWT appears to have some influence on total heavy truck collisions and their port proximity, this study concludes that the complexity of Philadelphia's intermodal supply chains must be more completely modeled to fully explain spatial and temporal patterns.

Paul Marr*, Shippensburg University; Sean Cornell, Shippensburg University Dept of Geography-Earth Science; John Wah, Matapeake Soil Consultants; Katherine Peresolak,

McCormick Taylor Engineering; Robert Joyce, Shippensburg University Dept of Geography-Earth Science: Test Pit Excavations at the Green Cabin Quarry Site (36AD0569), South Mountain, Pennsylvania

South Mountain, Pennsylvania rhyolite was an important raw material for stone tool manufacturing from the late Archaic to middle Woodland periods (6800 BP – 1000 BP) and was quarried extensively along ridgetop exposures. Rhyolite degrades quickly and previous research suggests that quarries were dug to access unweathered material suitable for tool-making. The Green Cabin prehistoric quarry site (36AD0569) differs from other South Mountain quarry sites in that the quarry pits appear to have been dug into a periglacial mass-movement feature. Soil test pits were excavated below and above the feature to address some basic questions regarding its age and origin. The soil test pits were sited 35m beyond the visible quarries in an area where no quarrying activity was discernable, yet artifacts were recorded to a depth of >1m in two of the test pits. High resolution LiDAR data and micro-terrain elevation analyses indicate that quarrying at the site may have extended more than 150m downslope of the visible surface pits. These results have implications for determining rhyolite quarry site extents, cultural resource management, and site protection measures.

Ivana M Mulcahy, Manhattan College: The Transgressed Body: Coping in a Patriarchal System

The present research investigates how the Western patriarchal system, fueled by rape culture in the form of victim blaming and shaming, is internalized by female victims of sexual assault. After experiences of sexual assault, eating disorders are used as a maladaptive coping mechanism in reaction to this system of oppression. I use feminist geographic theory to guide my research, as this theory recognizes how the human body can be a place in which human systems play out their effects. The research identifies two key aspects of patriarchal thought, including Mind-Body Dualism and Individualism, which blame women's bodies for the transgressions against them. This oppressive system can then be adopted by female victims so that their responses to sexual assault are against their own bodies as well, which expresses itself in the form of eating disordered behavior. These findings, however, need to be qualified by the fact that available research largely excludes women of color and the specific social forces, on the intersection of gender and race, which are placed on non-white bodies. Finally, I present my research within the comic format in order to simulate the female victim's body situated in a codified space, much like the space of patriarchy and rape culture.

Justin D Mullikin, Rutgers University: Performative Governance and Agrarian Change in Rwanda

As a young Rwandan poet commented, his country "is made from agriculture and entertainment." My paper looks at the role of performance in shaping Rwandan governance and agrarian landscapes. The present-day state bureaucracy in Rwanda has a reputation for efficiency and effectiveness in its policy implementation. Through decentralization and other "good governance" reforms, it has also promoted itself as transparent, professional, and highly accessible to citizens. Among the reforms most publicized by the state are its Home Grown Initiatives; a set of programs that appropriate cultural practices and rituals to further state

development goals. In practice, however, the state remains highly centralized, its rationales and intentions often inscrutable, and its agents difficult to access through the formalized channels of governance even for those *within* the state apparatus.

Yet state agents and everyday citizens alike are under immense pressure to adhere to these reforms while meeting aggressive performance targets. As a result, performing governance requires performative governance; meeting performance targets requires an elaborate performance of governance while much of the actual work of "getting things done" occurs through practices and rituals that fall outside of officialized policy and procedure. At the same time, the agrarian policies implemented over the previous ten years are creating an agrarian landscape in which the practices and rituals appropriated by the government are disappearing. As my research explores, performative governance in Rwanda is generating new rituals and practices that both reproduce the state and shape the direction of agrarian change in subtle and surprising ways.

Jayati Narain, Rutgers University: Urban Thresholds and the Right to the City

Focusing on Delhi, India, this paper explores the enactment and extension of city borders through various methods in relation to regimes of development. The impact of these developmental practices enabling sprawl and porous borders while also leading to hard edges to keep out those challenging the top-down approach to development. Anchoring the argument within protest sites along the border, this paper asks, how might the border be conceptualized as a threshold connecting to citizenship rights and development, particularly when enforced against protesters moving towards the city center?

This question is explored by discussing the nature and impact of bordering practices inside and out the city through existing, developing, and dissolved spaces of resistance. The shifting and dynamic nature of the peripheries and how they are mobilized in various ways, is contextualized by centering spaces within the ongoing farmer's protests in the country. Neoliberal market forces playing a key role in the expansion of the city and the protests, leading to livelihood and housing precarity. The logic of the market dispossessing and connecting those on either side of the border, pushing them to, directly and indirectly, challenge the state and private players through a subversion of the developmental regime by creating spaces outside of formal planning. These spaces allowing groups excluded from the dominant paradigm of urban growth to enact the right to the city while making apparent the inherent paradox of the state's bordering practices.

Kevin Rogan, Rutgers University - Newark: ”A Universe of Rented Spaces Haunted by a Nowhere": Problems and Praxis in Urban Ground Rent

This essay seeks to to resituate rent, and the power relation that inhere in any practical theory of cities and urban life. Contemporary discussions of cities and urban life often studiously shift the focus from rent, even though it is this payment which unifies great swathes of the urban citizenry. While there may be any number of reasons that rent is undertheorized, this paper will focus on establishing a workable definition of rent, founded on a Marxist understanding of capitalist private property and further augmented by recent work on social reproduction, with the intention

of highlighting the importance of rent as a barrier cost making life itself prohibitive without recourse to obfuscatory claims about the social value of "home".

Rent strikes and tenant's actions in recent years in New York City have highlighted the need for a theory of rent in political terms. There is also further understanding to be discovered historically via the experience of the rent strikes which wracked New York City in the early decades of the 20th century. The essay will begin with a literature review of existing theories of rent, followed with insights from the urban sociology school of Marxist urban theory; it will then proceed into a discussion of both historical and contemporary actions against the privation of rent, and analyze the way rent and private property both appear and are conceptualized within these struggles.

Macy N Turner*, Kutztown University; Michael Davis, Kutztown University: ADULT DIABETES PREVALENCE IN URBAN HEAT ISLANDS: A CASE STUDY OF PHILADELPHIA, PENNSYLVANIA

Urban heat islands are increasingly becoming more prevalent in modern day society as the effects of global warming have devastated urban communities across the world. Global warming has caused these heat islands to warm over time to temperatures warmer than the surrounding areas. Heat waves caused by global warming can be detrimental to one's own health if not taken seriously. Previously, climate change was thought to only have environmental impacts, but now are also being seen as a direct human health impact. This study emphasizes how heat caused by urban heat islands can negatively affect those diagnosed with diabetes. Studies have shown how incremental temperature increases have led to an uptick in health issues in various populations, and in particular affecting those who may be disadvantaged (socially/physically/economically). By using LANDSAT 8 imagery, we incorporate the overarching notion of climate change onto what trajectories hold, and the consequences that the urban heat island effect may have if temperatures begin to rise higher anthropogenically in the future.

Ooha Uppalapati, Rutgers University, New Brunswick: Regulating in increments : studying planning mechanisms responding to basement conversions in New York City

Conversion is a housing practice that innovates for access in land-scarce and largely regulated housing landscapes by adding an accessory living space within the private unit. Often, in conditions of scarcity, the practice tests the limits of viability of physical and economic use as defined in official planning language. In response, planning mechanisms upholding the land use, construction, and occupancy laws are designed and redesigned to incrementally determine new limits of viability and grounds for violation to regularize and regulate conversions *and* to reinvent the conditions of housing security and access apparent in them. I offer a framework in this paper to approach the rationale and methodologies that take shape in the translation between the practice of conversion performed in the incremental design of regulatory tools and the everyday practice of conversion, as they reproduce each other and in important ways remain distinct from each other. I derive the framework from a study of the Basement Apartment Conversion Pilot Program (BACPP), launched in New York City in 2019, to regularize basement conversions prevalent in the city's lower income neighborhoods. I offer three methodologies, and associated rationale, observed in the incremental design of BACPP - financial incentives to activate conversions that would be legal within existing regulatory controls, regulatory changes

to test the limits of viability, and addition of new controls for regulating the activated trajectories of conversion. I find that in each of these adjustments there is a negotiation of the meaning of housing (in)security that can be legitimised.

Tyler G Young, Rutgers Geography: Towards a decolonial diverse economies approach? A critical commentary on Lindsay Naylor's Fair Trade Rebels.

In her 2019 book *Fair Trade Rebels*— which focuses on the livelihood strategies and socioeconomic networks of coffee producing campesinos/as in Chiapas, Mexico—Lindsay Naylor combines the insights of the diverse economies research program (DE) with those of the modernity/coloniality research program (MC) to create an innovative analytical framework. Naylor's text will be of interest to practitioners of both collectives, as it addresses some of the perceived shortcomings attributed to each in a (seemingly) mutually complementary fashion. To wit, Naylor's combinatory framework allows her to engage with questions of economic difference/alterity, an area of study that Escobar (2007) and Asher (2013) agree remains somewhat of a lacunae within MC scholarship, while also addressing on-going processes of racial and colonial oppression, which Bledsoe et al. (2019) argue remain undertheorized within DE literature. But while Naylor's text offers exciting directions for both research programs, in this commentary, I argue that the marriage of the DE and MC frameworks is, in fact, considerably more problematic than Naylor suggests, producing peculiar tensions within the text. After exploring the contradictory theoretical assumptions that underlie these tensions –which I argue can be traced to the differing modes of Marxian thought deployed within DE and MC, respectively—I propose the concepts of *totalizing mediation, dialectical articulation,* and *entangled non-contemporaneity* as analytical tools capable of coming to terms with the theoretical antinomies of *Fair Trade Rebels*, while reinforcing its core insights.

Poster Abstracts

Gita Bhushal Adhikary, Montclair State University; Pankaj Lal, Montclair State University; Bernabas Wolde, Montclair State University; Pralhad Burli, Idaho National Laboratory: Incidence of Human Wildlife Conflict and Likelihood of Reporting Losses: The Case of Banke National Park, Nepal

Human wildlife conflicts (HWC) are prominent in developing countries, where many are suffering and not reporting losses even though a compensation scheme exists. Thus, this study explored the incidences of HWC conflicts, and the factors influencing the likelihood to report the loss from HWC by using logistic regression method. The settlements in the buffer zone of Banke National Park, Nepal was chosen as a study site. The study surveyed 198 participants, of which, 197 reported suffering from crop raids by wild animals, and approximately 55% reported livestock death. The study revealed that socio-demographic factors such as age, gender and family size were statistically significant in influencing the likelihood of reporting the loss. The study suggests improvements to policy measures for compensation schemes by tailoring the program to affected populations.

Dustin Braden, University of Delaware: Comparing Satellite-Derived Forest Estimates in Mexico for Carbon Monitoring Systems

A variety of satellite-derived gridded data products are available at the global and regional level for estimating tree and forest cover, including but not limited to MODIS vegetation continuous fields (MOD44B), Global Forest Cover Change Tree Cover, and land cover products with a forest class (e.g., Globeland30). Differing data sources, available imagery, and analysis methods result in vastly different estimates across these products – with implications beyond forest cover estimates, which are frequently used to calculate aboveground biomass (AGB) and national carbon stock estimates. Utilizing one product over the other can push policymakers to varying conclusions regarding necessary actions. Hence, it is critical to understand and quantify the extent of this variability across similar data products. In this work, we compare forest cover estimates in mainland Mexico derived from two land cover products: Globeland30 (2020, 30m) and the European Space Agency Climate Change Initiative's 'S2 prototype land cover map at 10m of Mesoamerica' product (2017). Both products were upscaled and aligned at 3km resolution. This comparison yielded an area of 493,794 km^2 identified by both products as forest and an area of 346,824 km^2 where only one product identified a pixel as forest. These results illustrate the magnitude of difference across available products on the national scale. In the future, additional products will be added to this analysis with a goal of quantifying how these differences between tree and forest cover products impact forest biomass estimates.

Leonardo Calzada*, Rutgers University; Rebecca L Selden, Department of Biological Sciences, Wellesley College; Kaycee Coleman, Oyster Recovery Partnership; Talia Young, Department of Environmental Studies, Haverford College; Kevin St. Martin, Department of Geography, Rutgers University: What is a port without its vessels? – Decline and Consolidation in the Fishing Ports of the Northeast

Climate change is altering the global diversity and habitats of marine species and is particularly striking in the Northeastern US. In response, fisher communities that depend on these species are adapting their harvesting strategies. Previous studies observed adaptation processes such as: shifting fishing grounds, shifting target species, and shifting port of landing in some communities "at sea". However, the spatio-temporal dynamics of connectivity and diversity between these communities at sea and their ports remain unexplored. In this context, our research aims to answer the question: what is the status of fishing communities during a time of industrial and environmental change? To address this question, we used fishing data to analyze the flows of vessels into and out of the different ports over time. In addition, we analyzed activity and changes in diversity of gear types for individual ports. This port-based approach made evident which communities have the capacity to adapt to changing conditions and which do not. Our results indicate that on one hand, most ports are decreasing their importance with fewer trips, fewer connections with other ports, and less diversity of gear types. On the other hand, a small number of ports are becoming hubs of activity, connectivity, and gear diversity. We conclude that reductions in the diversity of ports and diversity of fleets within a port will be an important consideration for the health of these fishing communities and their potential to adapt to future change.

Mary Kenny, Montclair University: Spatial Analysis of Community Solar in NJ

Climate change is a growing concern in New Jersey. Both state and non-governmental agencies have come together to reduce the state's greenhouse gas emissions in an effort to mitigate the impact of climate change. These state initiatives are guiding the renewable energy sector to expand its market in order to support a clean energy future. Re-Powering Sites, a new initiative associated with the Energy Master Plan (EMP), is a program that enables communities to repurpose sites that have little, if any, development potential for renewable generation. However, limited resources are available, and thus optimal sites for RE-Power need to be selected. We propose a solar suitability study based in New Jersey that is constructed around current state policies specifically restricted to electronic distribution companies (EDC) territories and informed by a set of 5 criteria including: Low- to Moderate- Income (LMI) populations, repurposed land (barren land, brownfields, and landfills), designated areas in need of development, annual Global Horizontal Irradiance (GHI), and other supporting infrastructure (mixture of commercial and residential properties). The crux of this model will be on repurposing degraded or underutilized land and building upon past suitability studies. The model will account for locations with a high potential to utilize solar energy while accounting for other social and environmental characteristics. Analytical Hierarchy Process (AHP) will be the technique used in this Multi-Criteria Decision Analysis (MCDA) to interpret environmental, social, and economic factors that should impact community solar site locations.

Matthew LaSusa, General Douglas MacArthur High School: A COMPARISON BETWEEN THE WAYS DIFFERENT NEW YORKERS PRACTICED RECREATION AND LEISURE DURING NEW YORK PAUSE

During the COVID-19 Pandemic in 2020, many New Yorkers were quarantined in the state of "New York Pause." In this period, many had increased time for leisure. This study looked at New

Yorkers from three neighboring counties and compared how people of different genders and ages (split into 4 groups) picked up new hobbies and furthered upon their old ones. Each participant was asked both if they picked up or expanded upon a prior hobby, and if so, what it was. When compared, males and females showed no difference in how they picked up or continued hobbies during New York Pause, but younger participants were shown to have both picked up and furthered hobbies more often than older participants. Along with that, hobbies that were picked up or furthered were split up and categorized by type (Physical, Creative, Non-Physical Recreation, and Academic), and it was found that creative or creation-based hobbies saw the most participation, especially with people learning instruments, drawing, or cooking. All of these results suggest that during their free time, most New Yorkers preferred to participate in hobbies that were creative in nature.

Summer Looney, General Douglas MacArthur High School; Erin R Lung, General Douglas MacArthur High School: Nature Area Place Attachment of Levittown Residents During the COVID-19 Pandemic

It is imperative to our understanding of human nature that we observe and analyze how humans interact with their environments. Studies have shown that people form emotional connections, hold memories with, and associate personal meaning to places (Scannell and Gifford, 2009). COVID-19 sent the world into periods of quarantined lockdown in 2020, mandates of mask-wearing, and methods of 6-feet social distancing. Residents of Levittown, NY (a prototypical American suburb) during their quarantined time visited nature areas. The aim of this study is to analyze how people form attachments to places, and how their perceptions of these places have changed throughout these unprecedented times. Research has previously shown that the main reasons for visitation to nature areas, parks and preserves in the Town of Hempstead, NY, of which Levittown is a hamlet of, are for relaxation and enjoyment (Friedman and Looney, 2020). The information found in this study would lead us to a better understanding of our community and place attachment. A 21-question survey was distributed to residents of Levittown, NY born before the year 2006 through targeted Facebook groups and Google Classroom platforms. Following the collection of responses, it was concluded that there was no statistical significance between males or females. People visited their place more because they felt it meant a lot to them, and perceptions of places changed in relation to the memories associated with them. This information is beneficial for the understanding of our community, and can be used to analyze further in a post-pandemic world.

James Luma, Kutztown University: Comparing Flash Flood Events Between Coastal New Jersey and Eastern Pennsylvania from 2015 to 2020

Hurricanes and Tropical Storms are known to cause flooding in many coastal regions. These disasters can result in damages to infrastructure and natural ecosystems, and can cause economic and societal hardships. In the United States during 2020, the total costs from severe storms and tropical cyclones totaled $78.2 Billion, with fatalities from these events reaching 171. The total cost of flood events in 2020 was $100.2 Billion. Climate change and resulting sea-level rise will only further these damages. However, inland flooding has become a topic of interest to many over the past couple of years. Inland flooding is a result of intense precipitation from landfalling

coastal storms. My research compared coastal to inland flash flooding events. The study zone for this research was New Jersey and Pennsylvania. I chose all twenty-one NJ counties, and twenty-one eastern PA counties. I also compared summer events to fall ones. The expectation was that there would be more flash flood events in coastal counties rather than inland counties. The preliminary results seem to prove the opposite, although further research needs to be conducted in order to confirm this. I plan on continuing this research into the winter in order to present more comprehensible results for AAG.

Trang Luong*, Montclair State University; Dileep K. Birur, Montclair State University; Pankaj Lal, Montclair State University: Impact of COVID-19 Pandemic on Tourism in Vietnam

The COVID-19 pandemic has shattered the world economy, with over 182 million people infected and 3.94 million deaths across the World (June 2021). This paper focuses on Vietnam's impressive case study in controlling the pandemic, which mainly followed multiple prevention and control measures such as lockdown, complete tracing, mandatory masks, social distancing, and restrictions on travel and immigration. Despite controlling the virus spread successfully, the serious impact of the pandemic on the Vietnamese economy is undeniable, especially on the tourism sector. In 2019, tourism played a prominent role in Vietnam's economic development, contributing about 9.2% of the country's gross domestic product (GDP).

In this study, we analyze the impact of the COVID-19 pandemic, particularly on the tourism sector in Vietnam, by employing a global Computable General Equilibrium (CGE) model. The model predicts a 4.62% loss in Vietnam's real GDP, equivalent to $10.2 billion, and money metric equivalent to welfare loss over $1 billion due to decreased tourism-related activities. The impact of the pandemic on tourism has received little consideration in the literature to date in Vietnam. This research attempts to analyze the pandemic's impacts on the Vietnam economy, focusing on tourism. It estimates the effectiveness of domestic tourism policies initiated to boost tourism during the pandemic.

Joseph Norvilas, Kutztown University of Pennsylvania: Community Gardens as an Effective Way to Reduce Crime Rates in New York City

During the COVID-19 Pandemic, which affected nearly everyone around the globe, the United States started to face a disruption in the food supply chain, creating a frenzy where many people bought a surplus of food and other supplies. This placed many Americans in a place where they may not have had access an adequate supply of food. Community gardens offered a place for people to grow supplemental fruits and vegetables that they otherwise would have got from the store in the past. Some community gardens operated at 100% planting capacity in the summer of 2020 which led the largest harvests in community gardens in recent history. I am looking at how crime rates are affected by community gardens in New York City during two timeframes, pr-pandemic in 2019 and during the pandemic in 2021. I preformed this comparison using GIS data for gardens, crimes, and demographic variables, and hotspot analysis on ArcGIS Pro. My research shows that crime rates tend decrease around the vicinity of community gardens in New York City after accounting for demographic variables, suggesting that the people living within

these area's fostered a sense of citizenship and identification within their communities, and took pride in their work at their community gardens both before and during the pandemic.

Archana Prasad, Montclair State University; Pankaj Lal, Montclair State University; Bernabas Wolde, Clean Energy and Sustainability Analytics Center (CESAC); Michelle Zhu, Montclair State University; Bharath K Samanthula, Montclair State University; Nicole Panorkou, Montclair State University: Impacts of the ACMES STEM Intervention Summer Camp on Adolescents Age 10-13

Encouraging interest in STEM subjects has been a struggle for many educators. Understanding why some adolescents are more interested in STEM than others is important in determining what could be done to address this problem. Understanding the level of encouragement students receive from parents and educators can be significant. To improve interest in STEM disciplines, a free summer camp experience was offered to students entering grades 6-8. This study uses statistical regression methods to gauge relationships between parental support, student backgrounds, and student desire to attend college majoring in STEM disciplines. Our results indicate that children who receive encouragement from their families are more likely to want to major in a STEM discipline in college. The families that encourage STEM literacy also tend to belong to well-represented ethnic groups in STEM, suggesting, among other things, the inter-generational pattern in STEM enrollment and the challenge that this poses to increasing enrollment of underrepresented groups in STEM disciplines. Gender also plays a role in this study, with female participants more likely to want to pursue a career in STEM after the STEM intervention program than male participants. These results allow us to quantify the role different actors can play in improving interest in STEM disciplines.

Nicole Provost*, Clean Energy & Sustainability Analytics Center, Montclair State University; Pankaj Lal, Clean Energy & Sustainability Analytics Center, Montclair State University; Bernabas Wolde, Clean Energy & Sustainability Analytics Center, Montclair State University: Understanding How Beach Proximity Affects Property Sales in New Jersey: A Hedonic Analysis Approach

The conception that properties located nearest the beach hold higher property values relative to those located further away is generally accepted by laypeople, yet the degree of that impact on a micro-scale is unknown. Hence, this study aimed to capture the monetary implications of beach proximity on single-family homes by utilizing a hedonic valuation approach. Focusing on Atlantic, Cape May, and Ocean Counties in New Jersey, single-family homes within the first 1 ½ blocks of the beach were collected. Using Geographic Information Systems (GIS), the nearest distance of each house to some neighborhood and environmental factors, such as a city hall and park, was determined. Statistical analysis determined the degree to which these factors and other household characteristics affect sale price. The statistically significant results found that the sales price of homes located in the second block from the beach was $44,0124 less than homes in the first block. On a more granular scale, homes located in the second lot from the beach held a sale price value of $349,548 less than homes located in the first lot. Thus, exemplifying how an increasing distance away from the beach can decrease a property's value, whether on the lot or block scale. The results from this study can provide helpful information for real estate research

or local legislation involved in factors that may affect beachfront homes, leading to more conscious planning decisions in beach towns and more effective research involving micro-scaled hedonic analysis.

Lauren Rosa-Rosa, University of Puerto Rico- Río Piedras Campus: Land use contestations over state-led efforts to privatize beaches in PR post-María

Coastal development and the privatization of beaches in Puerto Rico threatens the right to access and enjoy the beach and increases vulnerabilities in the face of climate change projections. In the wake of Hurricane María, the Puerto Rican government deepened its privatization efforts of common goods. Drawing from debates in political ecology and science and technology studies, this study aims to understand the underlying rationale behind state-led efforts to privatize coastal lands in Puerto Rico in the aftermath of Hurricane María. Framed around Harvey's (2004) theory of accumulation by dispossession and Klein's (2007) shock doctrine, discourse analysis will be employed to understand how institutional discourse and the policies implemented in the aftermath of Hurricane María were used to justify and carry out the privatization of coastal lands. Moreover, interviews will be held with environmental experts and public advocates to understand how the demarcation of maritime-terrestrial common goods is determined and whether it correlates with Lave's (2010) neoliberal science regimes. This study attempts to contribute to broader conversations of environmental justice that transcends Puerto Rico and becomes relevant to many Caribbean islands that have their own colonial complexities and will also face the destructive effects of climate change.

Nawal Shoaib*, Montclair State University; Meghann Smith, Montclair State University; Pankaj Lal, Montclair State University: Life Cycle Assessment of an offshore wind farm in New Jersey

Wind farms have seen a tremendous growth over the past few years. As countries strive to become carbon neutral and reduce their greenhouse emissions, the need for new renewable energy power generation increases. New Jersey, USA, has been diligently working towards this cause, as the State aims to be carbon neutral by 2050. Since wind energy is an abundant resource amongst coastal states, offshore wind farms have gained momentum, and numerous projects are in early development.This study aims to calculate the environmental impact of the construction, transportation, operation, and decommissioning of a 1.1 GW offshore wind farm along the New Jersey coastline using cradle-to-grave Life Cycle Assessment (LCA) environmental analysis technique. This study will closely represent New Jersey's developing plans in collaboration with Orsted's Ocean Wind project and will explore different scenario analysis including turbine type, grid connections, and recycling options.

Abby Wheeler, Kutztown University: Urban Change and Development: How Energy Consumption is Changing in the Lehigh Valley

The Lehigh Valley, commonly classified as the cities of Allentown, Bethlehem, and Easton, is a major population center of the Commonwealth of Pennsylvania. This modern urban conglomerate relies on a diverse economic portfolio including, but not limited to, commercial,

industrial, logistical, and residential drivers. These all require energy to propel the economic engine of the Lehigh Valley. Most often these energy sources have been fossil fuel based. Recently, renewable energy has become more proliferated in Pennsylvania and the local region. In Pennsylvania, consumers of energy have the option of selecting their energy provider and source of energy. This has allowed greater accessibility and opportunity for consumers to switch to renewable sources of energy.

This study examines trends in energy generation and consumption across the Lehigh Valley. Allocation of the energy for specific purposes, such as lighting, heating, cooling, ventilation, hot water, and others, are further examined to understand ever changing energy demands and how much energy is required for these essential property practices.

Jing Xiao, Rutgers, The State University of New Jersey; Åsa K Rennermalm, Rutgers, The State University of New Jersey; Sasha Leidman, Rutgers, The State University of New Jersey; Federico Covi, University of Alaska Fairbanks; Regine Hock, University of Alaska Fairbanks, Oslo University: Can a single core represent the conditions of a site? – Local spatial variability in firn properties in Southwest Greenland

Increasing mass loss of Greenland ice sheet is one of the largest contributors to global sea level rise. Ice layers formed from meltwater percolation and refreezing in the firn can prevent further infiltration and increase runoff to the ocean. Most previous studies use a single core to represent the refrozen ice layers and other firn properties at each site. Yet, the plot-scale variability of these properties has not been examined in detail. Here we investigate the local spatial variability in density and ice layer thickness fraction through comparing the firn properties of the top 15 m of 46 firn cores retrieved from 15 sites in Southwest Greenland between 1998-2019. Four of these sites have two or more cores collected only meters apart during the same field season. T-test results suggest there is no statistically significant difference between the density or ice content of the cores from the same site. Despite being statistically similar, the cores from the same site and year still exhibit density and ice fraction differences up to 65 kg m^3 and 16% in the top 5 m, which translate into firn air content range up to 0.4 m. This study confirms that single cores can provide representative densities and ice layer fractions of one site and reference for nearby areas. However, for studies requiring greater precision, multiple cores from one site are recommended to cover the local variability and provide a complete picture of the site.

Eileen Zhao, North Shore High School; Jase Bernhardt, Hofstra University: Effectiveness of Call-to-Action Warnings on Flash Flood Decision Making

Every year, the accumulation of water from heavy rainfall can trigger episodes of flash flooding, which places many lives at risk. However, the dangers of flash flooding are amplified during driving, as drivers can perceive their car to be a safe location even though it is one of the most common locations of flooding fatality. In order to reduce the risk of driving-related deaths, flash flood warnings are sent from the National Weather Service to devices of nearby individuals, however they do not consistently include call-to-action messages. This research explores the impact of different flash flood warnings on flash-flood driving behaviors. A flash flood driving simulation was first created in Unity, which was distributed to 287 random US participants along with a survey. Participants were then instructed to run the simulation, in which a standard, call-

to-action or control message was displayed on a virtual phone. The simulation would end in either death or survival, prompting the participants to complete a Qualtrics survey. Those receiving the call-to-action message “Turn Around Don’t Drown” had the highest survival rate, and found the simulation to be the most helpful and impactful in comparison to participants that had received the other messages. In addition, those receiving an unrelated control alert were the least likely to find their message to have an impact on their driving behavior. Additional research is needed to determine the impact of types of call-to-action messages on behavior, as well as optimal methods of weather warning communication.