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CLIMATE CHANGE IN MISSISSIPPI: A JOURNALISTIC EXPLORATION OF
EDUCATION AND ACTIVISM

By
Kala M. Nance

A thesis project submitted to the faculty of The University of Mississippi in partial fulfillment of
the requirements of the Sally McDonnell Barksdale Honors College.

Oxford, MS
May 2024

Approved By

Advisor: Dr. Debora Wenger

Reader: Professor Charlie Mitchell

Reader: Dr. Summer Hill-Vinson

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DEDICATION

This thesis project is dedicated to a multitude of people: my family for supporting me, my friends for believing in me, my educators for pushing me and my project peers for trusting in Mississippi just as much as I do. Having this platform has given us all a special opportunity to speak up. For me specifically, I have always been passionate about climate change but now I have the extra knowledge to educate others on the urgency of the topic. To everyone who has listened to me and asked me thoughtful questions throughout this journey, thank you! You are the reason I am able to defend a thesis that I am proud of.

ACKNOWLEDGEMENTS

I would like to acknowledge my thesis advisor, Dr. Debora Wenger, for inspiring me throughout this whole process. Many thanks are in order for her as she has been so gracious in guiding me. Additionally, the School of Journalism and New Media deserves recognition for the project concept. They are extremely proactive in promoting educational opportunities, especially in my time as a journalism student. I have been met with a plethora of moments that have added to my journalistic abilities and believe all of my time, effort and research put into this project are a result of the strong educators present in my life. Thank you, thank you, thank you!

ABSTRACT

CLIMATE CHANGE IN MISSISSIPPI: A JOURNALISTIC EXPLORATION OF EDUCATION AND ACTIVISM

(Under the direction of Dr. Debora Wenger)

Climate Change in Mississippi: A Journalistic Exploration of Education and Activism takes an investigative, journalistic approach toward climate change in Mississippi. Specifically, how education and awareness have a direct impact on Mississippi industries, people and legislation. The project explored the level of acknowledgement of climate change across the state, and how certain individuals used advocacy to encourage education about climate change to raise awareness of the severity of the situation. This project includes interviews with university professors and researchers, non-profit organizations, educational groups and working individuals in some of Mississippi's largest areas of employment. Additionally, this project draws on research from interviews to gather relevant information and develop context that is imperative for understanding. Various opinions and experiences are expressed throughout the investigation of this topic, highlighting how education and awareness of climate change affects different stakeholders in the state.

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INTRODUCTION

In April 2023, Vice President Kamala Harris announced that the U.S. Department of Commerce would be allocating \$9.9 million to the state of Mississippi for projects focused on improving communities to become more “economically resilient” in the face of climate change (NOAA, 2023). This allocation of funds was part of the Climate-Ready Coasts Initiative and has helped create jobs to boost environmental situations for Mississippi’s coastal communities. In addition, this government funding has sparked a larger conversation in the state about awareness, education and advocacy around climate change issues across Mississippi.

However, discussions about climate change at the legislative level within the state have been infrequent and limited, according to research by University of Mississippi student, Mateos Lozano (2023). For example, in 2013, [House Bill 1266](#) was passed by Mississippi lawmakers. This law brought updates to the 2010 American Society of Heating, Refrigerating and Air-Conditioning Engineers standards by adding changes to Mississippi’s building energy efficiency codes. Before HB 1266, energy standards had been untouched in the state for nearly 30 years, but they have not yet been updated to today’s standards. Mississippi also passed [HB 1685](#) in 2013, which gave Mississippi Development Authority, a state agency that works with economic and community development, the authorization to design a fund that allows for public schools to apply for loans to access buses and vehicles in the state. The Mississippi Alternative Fuel School Bus and Motor Vehicle Revolving Loan Fund was the result. More recently, in 2024,

[Senate Bill 2059](#) was passed. SB 2059 helped better “define the term biomass and other relevant terms,” and also required that “energy produced from certain sources be considered carbon neutral and...energy produced from certain sources in conjunction with carbon capture technologies be considered carbon negative.” This law will take effect in Mississippi July 1, 2024, changing the way some agricultural harvesting in the state is defined.

There are no current bills advocating for climate change across the state in the 2024 legislative session, despite the fact that the [U.S. Environmental Protection Agency](#) said it would give \$3 million to each state that develops a climate action plan by the end of March 2024. However, the Mississippi Department of Environmental Quality is in charge of drafting the state’s climate action plan and is currently encouraging the public to participate in surveys and feedback on its website (Rozier, 2024).

In Mississippi and across the country, climate change remains a polarizing topic. The Pew Research Center found that about 54% of Americans see a need for national action, leaving 46% that are disinterested or disengaged in the climate change discourse. In the last decade, there has been a major divide in the viewpoints between Democrats and Republicans, with “nearly eight-in-ten Democrats (78%) describing climate change as a major threat to the country’s well-being, up from about six-in-ten (58%) a decade ago. By contrast, about one-in-four Republicans (23%) consider climate change a major threat, a share that’s almost identical to 10 years ago” (Tyson, A., 2023).

In Mississippi, about 57% of all residents indicated they were worried about global warming, according to the 2023 [Yale Climate Opinion Maps](#). When you break down the data by

county, Humphreys, Coahoma, Noxubee, Holmes and Jefferson appear to take the effects of climate change more seriously, with 68% of residents in each indicating concern. On the other hand, counties such as Monroe, DeSoto, Franklin, Jackson and Lawrence are the least concerned with climate change, with only about 56% of residents in each county showing concern. Locally, Lafayette and Panola counties are more in the middle of rankings, with Lafayette having 66% and Panola having 64% of residents caring about climate change. Pontotoc county comes in much lower, with only 58%.

To better understand the wide variety of viewpoints about climate change in Mississippi, as well as the impact of climate change on the state, I joined a team of seven students from the University of Mississippi to explore the issues as part of a depth reporting project in the School of Journalism and New Media. The “Rising Tides, Rising Temperatures” project began in the fall of 2023, which gave ample time to report on multiple angles of the story.

As a journalism major with experience in reporting, I focused on two specific aspects of climate change initiatives in the state: educational efforts within Mississippi universities and non-profit organizations, and individuals supporting climate change activism through their lines of work. I interviewed climate change professionals who worked in some of Mississippi’s top-rated universities, as well as individuals who owned and operated climate-based non-profits. To see how activism and education worked in the real world, I interviewed several individuals who work in or with the timber industry, which is the state's third largest agricultural commodity after poultry and soybeans. The timber industry perspectives helped add to the idea that climate change affects Mississippians in ways they may not have considered.

In order to understand the logistics of climate change, I conducted general research and a brief review of academic studies that were available to me. Studying this topic more in-depth allowed me to conduct more meaningful conversations and display my knowledge of the subject as I conducted interviews. This information was also beneficial to me as I began comparing national findings to findings in the state of Mississippi. Research resources included the U.S. Environmental Protection Agency website, which was helpful in providing context for state-specific legislation and initiatives, and the [Yale Climate Opinions](#) website, which provided county-level data. To better understand personal views on climate change and the disbelief in global warming, I conducted a series of in-depth interviews with a wide range of experts, including government officials, professors, business owners, and non-profit organization leaders.

As a result of this research, I produced three in-depth articles: a piece on the challenges to activism and educational efforts related to climate change provided throughout state universities and non-profit organizations, an overview of the timber industry and its challenges and issues related to climate change, and an exploration of longleaf pine and the replanting efforts under way in Mississippi to restore this part of the state's natural habitat. In addition to these articles, I also created a series of photos detailing the process of replanting, growing, maintaining and harvesting timber from the perspective of a logging company. These photos add a visual component to my reporting.

In-depth reporting is beneficial to research because it helps uncover hidden information that is needed to evolve as a society. Because of my independent research, interviews and analysis of climate change, I have revealed that the issue of climate change is more complex than

the average person may realize. Many individuals throughout the state are working hard on tackling the issue, even though there are little efforts at the legislative level.

This thesis provides details on my approach to research, writing and construction of interviews. A glossary is included, defining important key words and concepts, and then my articles are incorporated along with my key findings in this project. The conclusion will also provide information about personal takeaways from this research experience and what Mississippi has to look forward to surrounding the future of climate change

PREPUBLICATION RESEARCH

Before the process of composing interview questions and writing articles, prepublication research was performed. Prepublication research was important to the content because it led to a discovery of relevant information and guided me toward specific areas of discussion to reflect in the articles. This discovery of information primarily focused on traditional research processes and reliance on government resources. One of the main goals of this project was to provide insight to what climate change is and why learning about it is important.

What is Climate Change?

Climate change has to do with the long-term change of average weather patterns and conditions. These patterns tend to affect “earth’s local, regional and global climates” (NASA, 2023). Such changes have a broad range of observed effects that are linked to the progression of change to the climate. Sometimes, the terms climate change and global warming are used interchangeably but both have their own meanings.

What is Global Warming?

Global warming is the gradual heating of the Earth’s surface due to human activities. This term is not to be used interchangeably with climate change. According to [NASA](#), “Since the pre-industrial period, human activities are estimated to have increased Earth’s global average

temperature by about 1 degree Celsius (1.8 degrees Fahrenheit), a number that is currently increasing by more than 0.2 degrees Celsius (0.36 degrees Fahrenheit) per decade. The current warming trend is unequivocally the result of human activity since the 1950s and is proceeding at an unprecedented rate over millennia” (NASA, 2023).

What Causes Climate Change?

Changes observed in the climate are largely due to human activities. The driving factors include fossil fuel burning, which then traps high levels of greenhouse gasses within the Earth’s atmosphere. This trapping of gasses causes the average surface temperature to rise. There are also some natural processes that can lead to a change in the climate, including “internal variability and external forcings.” Examples of internal variabilities are “cyclical ocean patterns such as El Niño, La Niña and the Pacific Decadal Oscillation, while volcanic activity, changes in the Sun’s energy output and variations in Earth’s orbit are examples of external forcings” (NASA, 2023).

How is Climate Change Traced?

Scientists take their observations from the ground, air and space, and use strategic computer models to track trends of climate change. Data provides growing evidence of climate change indicators, such as the “increase of land and sea temperatures around the world, rising sea levels, ice loss at Earth’s poles and in mountain glaciers, frequency and severity changes in extreme weather such as hurricanes, heatwaves, wildfires, droughts, floods, and precipitation and cloud and vegetation cover changes” (NASA, 2023).

Mississippi Climate

The fragility of climate shows how easily it affects other avenues of daily life. In 2022, Jackson, Mississippi experienced a disruption in access to drinking water due to flooding at the O.B. Curtis Water Treatment Plant. As climate change conditions worsen, it continues to destroy vulnerable aspects vital to human life.

Water systems are already being stressed across the United States, as record flooding and droughts are occurring all over the nation. According to a [National Public Radio](#) (NPR) report, experts believe that what happened in Jackson is “just the beginning” of climate change threatening infrastructure (Neuman, 2022).

In a study done by the U.S. water alliance, it was estimated that around \$2.2 trillion would need to be invested in order to address the infrastructure shortfalls that the nation is experiencing. This investment would need to happen over the course of the next two decades. However, in Jackson the infrastructure issues are piling up to large amounts alone. In 2022, it was estimated that it would cost billions to completely fix the city’s water issues (U.S. Water Alliance, 2020; Dent, 2022).

Recent data shows that Mississippi is one of the top five states most at-risk for being directly affected by climate change. Mississippi’s Climate Change Risk Index is 270. For comparison, that national average is at 174, and Southern states generally score near 229. This data comes from Safe Home Organization, which conducted research from 2022-23 about how Mississippians are the most vulnerable to extreme heat conditions. According to the organization’s information, the state can “expect a 140% increase in summer droughts and a 21-day increase in the number of days with high wildfire potential between the years

2000-2050.” This information suggests that 57% of the state’s population sits at an elevated risk of experiencing wildfire (Safe Home, 2023; Neuman, 2022).

Educational and Advocacy Efforts

To address a lack of knowledge about educational efforts offered in Mississippi in relation to climate change, I contacted several individuals about their initiatives for educating the public in Mississippi and beyond.

As of 2023, only two states require their school systems to teach about the reality of climate change: New Jersey and Connecticut (Madelone, 2023). Nationally, the U.S. does not have strict science standards and leaves this portion of the K-12 curriculum up to the state, and Mississippi does not require any education about climate change. However, a study done by the Columbia Climate School shows that more than 86 percent of teachers and 84 percent of parents support climate change education in U.S. schools (Cho, 2023).

The picture changes to some extent within Mississippi’s universities. In 2023, Mississippi State University received \$4 million in funding from the National Science Foundation to begin a climate change study in the state. The money will go to support the “study climate change impacts in the Mississippi Delta and increase resilience among vulnerable populations” (Mississippi State Newsroom, 2023). This study will also expand over the next 5 years and will contribute to increasing the resilience among “vulnerable populations,” according to the [Mississippi State Newsroom](#). This study may help improve climate literacy in underserved communities of Mississippi and develop employment opportunities. This partnership with the University will also help bridge the gap between K-12 schools and community colleges in the

area. This project is an example of how educational efforts and partnerships can play a role in “strengthening our nation’s security, competitiveness, and fostering groundbreaking scientific advancements” (Mississippi State University Newsroom, 2023).

Additionally, other universities in the state are doing their part to install sustainable efforts on their campuses. The University of Southern Mississippi campus in Long Beach, Mississippi, has a coast-focused program. The Coastal Resilience Program was featured in the 2023 [Sustainable Campus index](#), which awards universities who are successful in achieving sustainability programs and regulations on their campus, impacting their communities. [The School of Coastal Resilience](#) employs research and teaching faculty, who specialize in science and mathematics, social sciences and humanities. This program, and those involved with it, aim to study “all matters that impact human well-being and ecosystem vitality in coastal regions,” according to the program website. Education is one important aspect to inspiring climate change efforts. However, encouraging individuals to be active in advocating for climate initiatives is the second part. One study of climate activism among people who said climate issues are important to them found that 29.8% donated money to an organization to reduce climate change, 32.3% signed a petition, 69% voted for candidates who support measures to reduce climate change, 11.9% wrote letters, e-mailed, or phoned government officials to urge them to take action, and 9.4% volunteered with organizations working to curb climate change. The most frequent reasons for lack of involvement in climate change activism were other people are better at it (57.4%), hadn’t been trained (56.7%), hadn’t been asked (50.8%), not knowing how to get involved (49.8%), activities like letter writing not appealing (49.8%), too busy (38.9%), organizations would ask them for money (39.8%), and not encouraged to become involved (38.2%) (Latkin,

C., Dayton, L., Bonneau, H. et al., 2023). These findings helped understand the reality of advocating for actions toward climate change policies. Dominika Parry, from 2C Mississippi in Jackson, owns a non-profit that engages with both advocacy for and education about climate change. Her action varies, whether it is through [educational opportunities](#), such as providing courses on climate change and public outreach or through [advocacy efforts](#), such as the non-profit's "Urban Heat Islands" and "Flooding in Jackson" projects that are solution-based, through adaptation and mitigation.

METHODS

In writing these articles, I followed a model widely accepted in investigative journalism pieces with a goal of uncovering information that is generally not available as public knowledge. I conducted interviews to review opinions, experiences and knowledge surrounding climate change conversations in Mississippi. Interviews began on September 5, 2023, and lasted until March 4, 2024. Overall, these interviews were semi-organized and ranged in length from 10 minutes to three hours (when visiting with certain individuals in person). A list of initial questions is provided in the appendices. A literature review of relevant information was also performed with sources from both popular press and traditional academic research. Interview subjects and individual interview questions are outlined below.

Interviews

For these articles, interviews were conducted in the following formats:

Dominika Parry, Dr; *2C Mississippi* – Phone Call

Jassen Callender; *Mississippi State University Professor, Jackson Community Design Center* – Phone Call

Alston Brown; *Mississippi State University Student, Architecture student in relation to Jackson Community Design Center* – Zoom Call

Westley Follett; *University of Southern Mississippi Professor, School of Coastal*

Resilience – Phone Call

Danny Box; *Economic Development Director, Greene County, Mississippi* – In Person,
Phone Call and Email

Dillon McInnis; *Timberline Forestry, Greene County, Mississippi* – In Person; Alice Ann
Hollingsworth and Cody Farris

Maria Moreno; *Enviva Incorporation* – Phone Call and Email

John Auel; *Mississippi Forestry Association* – Phone Call

As I was contacting people to discuss the topic of climate change, I took note of how many people/organizations were uninterested in having a conversation with me though they were noted as being dedicated to climate change initiatives. Potential interview subjects that 1) did not respond or 2) declined a conversation are outlined below:

No Response/Declined

For these articles, these individuals were contacted with the intentions of including their climate change knowledge:

Kendall McDonald, *University of Mississippi's Office of Sustainability* – Emailed on Sept. 18th, Oct. 1st and left a message from a phone call on Oct. 3rd. Scheduled an interview for Oct. 16th but didn't show up and never responded to me again after that date.

Courtney Cochran, *Mississippi State University* – Forwarded me to two students involved with MSU's Sustainability Office. No response.

Dr Beth Baker and Mary Kathryn Kight, *Research Staff from MSU Carbon Coalition* – Scheduled to chat on Oct. 17th at 3:30 pm. Wanted the whole conversation to be off the record.

Tom Williams, *Mississippi College Office of Sustainability* – Referred me to another employee for deeper information. No response from other employee.

Paul Tchounwou and Inez Johnson, *Jackson State University* – Sent email on Sept. 18th and Oct. 1st. Phone numbers not listed publicly to call. No response.

Delta State University Office of Sustainability – Emailed on Sept. 18th and Oct. 2nd. Called on Oct. 3rd. No response.

Mississippi Valley University Communications Department – Emailed Oct. 9th and followed up on Oct. 13th. No response.

Alcorn State University Communications Department – Email on Oct. 9th and followed up Oct. 13th. No response.

Farmstead Florals – emailed on Oct 15th and followed up on Oct. 17th. No response.

Ember Reysen, *University of Mississippi's Green Grove Co-Coordinator* – Emailed on Oct. 15th and Oct. 20th. Agreed to interview via email but never responded to scheduling emails.

Mississippi University for Women Communications Department – Emailed on Oct. 9th. Referred me to another individual on Oct. 10th. No response.

Luke Horton, *Leaf River Paper Mill* – Called on Feb. 16th, emailed on Feb. 18th, said no to a conversation on Feb. 19th via email.

Chad Newell, *Hood Industries* – Called on Feb. 22nd, emailed on Feb. 22nd. No response.

James Shumpert, *Assistant Regional Forester at the Mississippi Forestry Commission* –
Called on Feb. 23rd, said he would only give a general statement via phone call.

GLOSSARY

Activism: The policy or action of using vigorous campaigning to bring about political or social change.

Advocacy: Public support for or recommendation of a particular cause or policy.

Climate: The weather conditions prevailing in an area in general or over a long period.

Climate Change: The significant variation of average weather conditions becoming, for example, warmer, wetter, or drier—over several decades or longer. It is the longer-term trend that differentiates climate change from natural weather variability.

Climate Economist: Individuals that evaluate the impacts of climate change and policies with state-of-the-art computer models called Integrated Assessment Models (IAMs) . IAMs include projections of the physical aspects of climate change, such as how much sea-levels rise.

Global Warming: Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere. This term is not interchangeable with the term "climate change."

Infrastructure: The basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise.

Longleaf Pine: A large pine tree of the southeastern U.S. with very long needles and cones. It was formerly an important source of turpentine.

Non-profit Organization: An organization that is not driven by profit but by dedication to a given cause that is the target of all income beyond what it takes to run the organization.

Social Justice: Justice in terms of the distribution of wealth, opportunities, and privileges within a society

Sustainability: Avoidance of the depletion of natural resources in order to maintain an ecological balance.

Weather: The state of the atmosphere at a place and time as regards heat, dryness, sunshine, wind, rain, etc.

ARTICLE 1: EDUCATION

During initial conversations about this project, I was asked what angle I wanted to pursue. I knew immediately that I wanted to focus on the educational and advocacy efforts in the state. More specifically, I wanted to know who was doing what and how they were helping educate Mississippi based on their knowledge and experiences. The purpose of this article was to focus on non-profit organizations and educational institutions. This article draws on the idea that various groups are beginning to implement systems of change across Mississippi, helping individuals better grasp the concept of climate change and its effects. The following article was published in the November 21, 2023, edition of *The Daily Mississippian* (Nance, 2023).

Mississippi's Emerging Leaders Strive for Climate Resilience

By: Kala Nance

Dominika Parry is a social justice advocate at 2C Mississippi, a Jackson-based organization with a unique, climate-focused mission.

“(2C Mississippi) is a climate organization that works on social justice projects,” Parry said.

“I’m making this distinction because these are delicate topics. . . . We work on social justice projects, and we bring in social justice money to low-income communities of color. The purpose of the organization (is) to work on climate change and openly talk about climate change in Mississippi.

Talking openly about climate change is not always easy in a state where, according to the Yale Climate Opinion study, just 44% of people believe global warming will harm them personally.

Parry, who is the founding president of 2C Mississippi and an environmental economist, earned her Ph.D. in forestry and environmental studies from Yale University. There, she worked on a valuation of air pollution damages. She said she speaks out on climate issues because so many others will not.

“What I encountered was this constant fear of saying climate change. There are very many denialists who believe that this is not happening, that it’s all a myth and a joke and a hoax. But those who wanted to talk about it were also afraid that they would be ostracized and that there were going to be consequences from their employers, and so I put myself ... in a position that allows me to talk about all the scientific facts and call them the way that they are,” Parry said.

The organization is managing a project funded by the Robert Wood Johnson Foundation to reduce Jackson’s exposure to extreme heat. They are developing green infrastructure to promote the cooling of Jackson. Green infrastructure refers to parks, tree lines, vertical gardens, rooftop gardens and other structures where the environmental impact of concrete can be reduced.

Mississippi State University’s architecture program has partnered with the Jackson Community Design Center and 2C Mississippi to give fifth-year students the opportunity to help with the project.

“We step in with student workers and do all of the ... up-front analysis of needs to then create the vision for projects so that nonprofits (like 2C Mississippi) can approach ... (larger) organizations

with their vision and carry the project across the finish line. We fill a very particular need,” said Jassen Callender, a professor at MSU and the director of the JCDC.

Students in the program are designing two new parks for Jackson. Alston Brown, an MSU architecture student from Madison, Miss., said the work in Jackson is heavily influenced by public opinion.

“For example, the Jackson Community Design Center is helping 2C Mississippi with their grant to begin building some more parks because they found out that’s what the city needs and the community wants. I think that is an important aspect to think about when understanding what we do here as both students and volunteers,” Brown said.



A family takes pictures at the Art Garden in Jackson, Miss., on Oct. 29, 2023. The director of 2C Mississippi Dominika Parry says that parks like this contribute to the community by allowing space for various events and activities. Photo by Kala Nance

Now, Parry is looking for more allies on state campuses.

“What I’m seeing is a huge interest among academics in social justice issues ... and education,” Parry said. “When you come to Jackson, you find issues that are much more complicated, and they don’t follow the rules as nicely as you would want (from) a textbook ... You are in a state that actually faces climate justice issues. If (students) and universities are willing to work on

educational programs and connect with an outreach in action, I think that's potentially extremely impactful.”

At the University of Southern Mississippi, educators are hoping to have an impact on some of Mississippi's biggest climate change challenges by creating new degree programs in its School of Coastal Resilience, located on the university's Gulf Campus. Students who enroll can choose from two programs: Sustainability Studies or Sustainability Sciences.

“Students pursuing these majors will learn from research scientists and scholars about the challenges that confront the ecologies, natural systems and communities of coastal zones and develop the understanding and skills necessary to address some of the most important socio-environmental problems confronting our region and indeed the world at large,” Associate Professor Westley Follett said.

Parry said that while nonprofit organizations, businesses and educational programs are contributing to the growing awareness of climate change in Mississippi, individuals also can have more impact than they may think.

“As an individual person, it is always good to change your behavior around the topic but what's even better is forming a group with similar initiatives,” Parry said. “The larger the organization, the larger the impact. Get involved with others and think about plans to help move forward sustainable initiatives. Minimize your commutes, carpool, walk, bike, take public transportation, eat more plant-based foods and avoid food waste. Anything you can do helps improve the state of climate crisis in Mississippi.”

ARTICLE 2

To expand on advocacy efforts in the state, a team of students worked with Dr. Debora Wenger to travel to Greene County in Mississippi to take a closer look at the timber industry in the state. The purpose of this article was to develop how professionals were changing the way timber was handled in regard to environmentally friendly practices. This article draws attention to those individuals and explains how they are shaping the timber industry to be more climate conscious. This article is scheduled for publication in *The Daily Mississippian* on April 25, 2024.

Mississippi Timber Industry Has Room to Grow

By: Kala Nance

Danny Box, a long-term resident of Greene County, Miss., said, “All you have to do is make a drive through to see that our most abundant resource is trees, primarily pine trees.”

Box worked for the U.S. Department of Agriculture, part of the Natural Resources Conservation Service Agency, for 33 years. He retired in 2019 but decided to go back to work for Greene County as the economic development director in 2021.



Danny Box, who serves as Greene County's economic development director. Box is pictured in the Greene County Courthouse during his interview on February 23, 2024. Photo by Kala Nance.

“We’re doing things here in economic development to try to create a better environment for timber growers,” Box said. “(We want) private landowners to have more opportunities to market their products since now there’s limited options for them when they...harvest, and those that do the harvesting have limited options on where to deliver that product to. The more opportunities we create, the better for our citizens.”

According to [Mississippi State University researchers](#), families and private companies own almost 70% of the forestland in the state, so the development of the timber industry has the potential to affect more than 150,000 people, as well as large corporate owners.

Dillon McInnis' family opened their business, Timberline Forestry, LLC, in 2012. It's located in Leakesville, Miss. Randy McInnis, Dillon's father, won Logger of the Year through the Mississippi Forestry Association in 2022. The family's love for nature has a strong impact on how they handle their business. However, Dillon mentioned how Mississippi forestland owners need more places to sell their products.

"We have such a supply of trees here. That is supply and demand. When we've got more trees than they need, you know, the price stays cheap on our end," McInnis said.

One corporation that buys timber from McInnis has had a rough go of it in Mississippi. Enviva Inc., one of the world's largest producers of timber products, takes timber from sellers across the world and produces industrial wood pellets that act as a renewable and sustainable energy source. As of March 5, the company was preparing to file for bankruptcy protection.

"Mississippi has been home to Enviva operations for over a decade, since 2010 to be exact, when we opened our very first plant just outside Tupelo in Amory, which continues to operate today," said Maria Moreno, Enviva's vice president of communications and public affairs in an email statement.

Two of its eight plants are located in Mississippi, including one in the George County town of Lucedale, which neighbors Greene County. According to a [Wall Street Journal report](#), Enviva bet that the price of power-plant fuel would keep climbing, which would in turn increase demand for its wood pellets, but that didn't happen.

"Looking back, construction on Enviva's Lucedale plant supported approximately 400 cumulative jobs and represented an investment of more than \$215 million in George County by Enviva," said Moreno. "Now fully operational, Enviva has hired approximately 90 full-time employees for the Lucedale plant and supports nearly 300 jobs across the George County community."



Pictured is one of the Mississippi Enviva Plants, located in Lucedale. The Lucedale plant specifically works with timber companies in Mississippi, and surrounding areas, to produce and export wood chips. Photo submitted by Maria Moreno from Enviva Inc.

If Enviva fails, suppliers like McNinnis and the people the company employs will suffer. [However, some environmentalists](#) prefer that companies like Enviva disappear altogether. They say pellet manufacturers create air pollution that can cause health problems in nearby communities. They also say pellet fuel contributes to climate change as much as or worse than coal. According to the [Environmental Integrity Project](#), at least eight of the 15 largest U.S. wood pellet facilities have seen fires or explosions in the last 10 years. Twenty-one additional mills have been reported to emit excessive greenhouse gasses and pollutants.

There are many things negatively impacting the Mississippi forestry industry, such as high demand, market dynamics, fluctuating costs and insufficient governmental action toward policy-making. But what's happening in Mississippi's timber industry is also playing out across the country and in many different industries. There's a push-pull between people who say addressing climate change is the priority, while others say corrective actions must be weighed against job loss and other negative economic consequences.

The [Mississippi Forestry Association](#) states that it specifically focuses on advocacy that is “conducive to the development and wise use of forest resources for the long-term benefit of all.”

John Auel, manager of the association's tree farm and professional logging programs, said that forestry contributes billions of dollars and job opportunities to the state. He has worked in the industry since 1996 and said that “a healthy forest is a well-managed forest.”

Managing forestland involves a process known as “thinning” in which some trees or parts of trees are removed to make room for the growth of others. Logging companies do much of that work but need a place to sell their timber to make the process sustainable.

Dillon and Box are looking for a bigger timber marketplace for their county.

“What we hope is that we attract a company that would build a sawmill,” says Box. “These facilities represent, roughly speaking, a \$300 million capital investment, which, for a county like Greene, improves our situation from a tax revenue standpoint, and typically these sawmills create 80 to 100 jobs that pay good salaries.”

Auel sees the link between a healthy economy and thriving forests.

“If you don't manage the forest then it gets overstocked. ... (We've) basically found that forest management is our best way to keep these resources healthy ... it also benefits biodiversity, wildlife and everything else,” Auel said.

ARTICLE 3

There have been several efforts across the state to help restore Mississippi habitat. Many species and living things have become endangered or gone extinct over the years due to human actions and/or other invasive species. To combat this, Mississippi has installed a longleaf pine restoration process. This piece takes a deeper look into the longleaf pine. This segment is more specific in explaining why this one tree is important to the Mississippi habitat and climate. This article is scheduled for publication in *The Daily Mississippian* on April 25, 2024.

Longleaf Pine Comeback Makes Mississippi Forests More Climate Resilient

By: Kala Nance



Shown here is an area of matured Longleaf Pine on February 23, 2024 in Mississippi's Greene County. Timberline Forestry, LLC helped with this new pine growth. Photo by Kala Nance.

Throughout the Southeast, foresters and activists are coming together to restore America's longleaf pine forests. The [Nature Conservancy reports](#) that longleaf pine once dominated the coastal plain, covering more than 90 million acres. Now there are just 5.2 million acres.

In Mississippi, more than two million longleaf pine seedlings have been planted in the past several years, according to the [Natural Forest Foundation](#). This state-wide replanting has restored about 4,000 acres of natural habitat, stretching across the DeSoto, Bienville and Homochitto National Forests.

Greene County timber company owner Dillon McInnis is part of the movement to restore the longleaf species to Mississippi's landscape.

"The fauna in the forest, the flowers, the different grasses and things that were there back at the turn of the century are kind of coming back with some practices we're implementing," McInnis said.

During most of the [19th Century](#), longleaf pine was primarily used for turpentine production, which involved extracting essential oils from the tree. But by the 20th century, railroad construction and planting of other invasive species in the area harmed the entire coastal plain's longleaf pine habitat. Today, only about 3% of the country's original longleaf forests remain.

"That tree is fire-dependent to reproduce naturally and so, at the turn of the century, this whole country was probably 90% longleaf trees because fire kept maintaining them," McInnis said. "When we came along and started planting loblolly pine, we messed everything up and it took over the other pine trees."

According to the [Mississippi State Extension](#) webpage, loblolly pines were planted to help produce more lumber and paper products. However, they grow rapidly and are not resistant to fire like the longleaf pines. [Longleaf pines](#), because they are resistant to fire, are less susceptible to "damaging insects or harmful disease," and hold their value in the lumber market.



McInnis, from Timberline Forestry, LLC, shows the up-close view of the Longleaf Pine Needle on February 23, 2024. His company works to replant, burn and maintain various pine forests across Mississippi. Photo by Kala Nance.

Because longleaf pine still exists, it is reasonable to assume that it can be restored in its previously dominated habitats. That's good news for those concerned about climate change as longleaf pines are "more resilient towards negative impacts of climate change than other southeastern pines," states the National Wildlife Federation's website. "They can withstand severe windstorms, resist pests, tolerate wildfires and drought, and capture carbon pollution from the atmosphere."

[Longleaf pine](#) forests also benefit wildlife, such as the Louisiana black bear and wild turkey, and federally listed species, such as the dusky gopher frog, gopher tortoise, red-cockaded woodpecker and black pine snake.

“Some of the practices we implement, we try to help the wildlife and try to promote (clean) air and water quality,” said McInnis. “I’m passionate about that myself. ... I like to hunt, and if we're taking care of the land, we have game to hunt. In turn, we help endangered species and other plants that very well could not be common to see.”

PHOTOJOURNALISM ESSAY

As I traveled and interviewed individuals, there were often things that could only be shown best through images. For this segment, I took photographs documenting the longleaf pine restoration process. Here, several pictures with captions better visualize the kind of work that goes into this effort within the timber industry. This article is scheduled for publication in *The Daily Mississippian* on April 25, 2024.

Longleaf Pine Restoration Process

By: Kala Nance



Longleaf Pine sprout pictured above, planted by crews employed with Timberline Forestry, LLC. This is the first task in ensuring healthy Longleaf Pine production. Photo by Kala Nance.



Longleaf Pine habitat before a controlled burning, showcasing the forested ground surrounding the base of the trees. Burnings help clear the area so that the pines are able to thrive. Photo by Kala Nance.



Once the Longleaf Pines reach a certain level of maturity, controlled burnings happen in order to promote healthy, lively growth. The pines are resistant to the surface fire. Photo by Kala Nance.



Another look at the Longleaf Pine after a controlled burning. The burnings also rid the area of other invasive plant species to help protect the pine's environment. Photo by Kala Nance.



Pine needle shown at the base of the tree branch, showcasing a blooming Longleaf. Photo by Kala Nance.



Trunks of fully matured Longleaf Pines. These trees will be cleared soon, in order to produce wood chips to sell for lumber products. The area will then be replanted, after its clearing, to continue the pine restoration project. Photo by Kala Nance.



Pictured is a \$700,000+ wood chipper, belonging to the Timberline Forestry, LLC, which helps turn cut pine trees into wood chips. These wood chips are sold to various companies, who in turn produce lumber-based products. Photo by Kala Nance.



Shown is Dillon McInnis, of Timberline Forestry, LLC, holding wood chips on February 23, 2024. These wood chips were produced from the pines off a property his company oversees in Greene County, Mississippi.

Photo by Kala Nance.

CONCLUSION/DISCUSSION

Generally speaking, the majority of individuals interviewed believe that climate change exists and is affecting the state of Mississippi. They all had various ideas on how to help improve the current climate conditions that were negatively impacting the state. However, they also believed that there has to be a healthy balance between implementing new, economically friendly initiatives and knowing long-term practices that have kept the industry flourishing. This belief was emphasized when in conversation with individuals in the timber industry. The timber industry is one of the largest grossing industries for the state of Mississippi and destroying that industry to preserve the environment would have a number of negative consequences. Those in the industry believe it can thrive with environmentally friendly practices while still benefiting the economy. Educational and advocacy efforts are getting a growing number of Mississippians involved in climate change conversations. In pursuit of gathering state-wide research, I encountered more obstacles than I initially planned for. Out of the 21 individuals I contacted for an interview, 13 declined an interview, had no response to my emails and phone calls or initially said yes but failed to follow up on my additional emails and phone calls about availability. Out of the 13 that were not featured, 10 were universities in Mississippi. The only universities that eagerly responded were Mississippi State University and University of Southern Mississippi. As a University of Mississippi student, I was disheartened to find reluctance in speaking on this issue. I think people's hesitancy to talk to me came from the topic of discussion and their ability to speak on the issue for their business, corporation or university. A lot of what was going to be

discussed was what initiatives they currently have in place and what they wish to see happen in the future. However, when inquiring about environmentally friendly or climate conscious regulations, most people seemed to be scared off at the idea of climate-based conversations causing them to say no, not respond or fail to follow through on interview plans. While there is still an abundance of skepticism in the state, there is also an expanding group of individuals who are addressing climate issues in the state. The stigma against the validity of climate change appears to be as a lack of education. Through these conversations, it has been proven that with proper knowledge, individuals have been willing to change their stances on climate change. When reaching out to people for interviews, I noticed how when climate change was mentioned, some appeared to be reluctant to speak on the matter, perhaps due to political leanings, though we did not ask people to identify their political affiliations. In contrast, when the phrase “environmentally friendly” was used, or I further described the point of my research, individuals were more likely to speak to me and offer their knowledge on the subject. This reinforces the idea that the portrayal of climate change in the media affects how people perceive the topic.

This study revealed that there is still a large amount of work that needs to be done in order to reverse the negative connotation that climate change has attached to it among some stakeholders. With proper educational opportunities and publicized conversations, Mississippi’s issues with climate change can be presented to state legislators. Future studies and reports will be extremely useful in trying to appeal to the masses about the concerns climate change poses. With time, and as accurate information is published in the media, it is likely that attitudes surrounding climate change will shift. This shift may help encourage Mississippi to adopt legislation that protects the environment. The current human activities that are affecting climate are proven to be

habitual. These can only be reversed as climate change knowledge is implemented more thoroughly in society.

APPENDIX A

Educator Interview Questions for Article 1

For the first article, “Mississippi’s Emerging Leaders Strive for Climate Resilience,” I conducted a phone interview with Dr. Dominika Parry at 2C Mississippi. The interview was conversational, but an outline of questions is listed below:

Educator Questions

- What is 2C Mississippi?
 - What is the organization’s foundation?
 - How does that foundation benefit Mississippi?
 - Where does the organization lead you to do?
 - How does your location in Jackson shape your work?
- What is climate justice?
 - When did you begin having an interest in climate justice?
 - How does your background deem you eligible to educate others on climate justice?
- Why is climate justice important for both the U.S. and Mississippi?
 - Why is it important for Jackson, as a city?
- How can both the U.S. and Mississippi their advocacy for climate justice?
 - How can Jackson improve?

- What are ways that the U.S. and Mississippi are doing well in climate justice?
 - How is Jackson doing well?
- Can you give general tips on how individuals can start advocating for climate justice in their communities?

APPENDIX B

Educator Interview Questions for Article 1

For the first article, “Mississippi’s Emerging Leaders Strive for Climate Resilience,” I conducted a phone interview with Professor Jassen Callender at Mississippi State University (MSU) with the Jackson Community Design Center (JCDC). The interview was conversational, but an outline of questions is listed below:

Educator Questions

- What is the Jackson Community Design Center?
 - When did this center form?
 - Why was its formation at MSU innovative?
 - How are students at MSU involved with JCDC?
- What is the JCDC’s connection with 2C Mississippi?
 - When did JCDC and 2C Mississippi start working together?
 - Why is this partnership important to the state of Mississippi?
 - Why is this partnership important to the city of Jackson?
- What are current efforts being made to better the climate in Mississippi?
 - How are these efforts affecting Jackson?
- What changes in the environment do you want to see as a result of the work done by the JCDC?

APPENDIX C

Activist Interview Questions for Article 2

For the second and third articles, “Mississippi Timber Industry Has Room to Grow,” and “Longleaf Pine Comeback Makes Mississippi Forests More Climate Resilient,” I conducted an in-person interview with Dillon McInnis, Forrester for Timberline Forestry in Greene County, Mississippi. The interview was conversational and included other contributors: Alice Ann Hollingsworth and Cody Farris, but an outline of questions is listed below:

Activist Interview

- Can you share how your family first got involved in the timber industry and how many generations have been involved?
 - Can you describe the process of sustainable forestry practices and how your family's business adheres to them?
 - What are the biggest challenges your family has faced in the timber industry?
- From your perspective, how has the timber industry evolved over the decades?
 - Are there any misconceptions about the timber industry that you would like to address?
- What are your thoughts on deforestation and the role of the timber industry in combating or contributing to it?

- What are your experiences with managing soil erosion?
- How do you balance economic considerations with environmental sustainability in your operations?
 - How does the timber industry contribute to the local economy and communities?
 - How has the industry been affected by technological changes and globalization?
 - How has climate change impacted the timber industry and your specific operations- if at all?
- What are your hopes for the future of the timber industry?
 - How do you see the role of the timber industry evolving in the context of climate change and environmental sustainability?

APPENDIX D

Activist Interview Questions for Article 2

or the second and third articles, “Mississippi Timber Industry Has Room to Grow,” and “Longleaf Pine Comeback Makes Mississippi Forests More Climate Resilient,” I conducted an in-person interview with Danny Box, the Economic Development Director in Greene County, Mississippi. The interview was conversational, but an outline of questions is listed below:

Activist Interview

- What is your relationship to Mississippi economics in Mississippi?
 - How does your relationship affect the way you approach implementing new ideas and systems?
- What has your research led you to believe in understanding the relationship between the economy industries in Mississippi?
- How do you think these systems will develop/change over time (next 5-10 years)?
- What will happen to the economy (in MS specifically) if the timber industry is changed/reduces value?
 - Especially since it is in the top 3 employment opportunities for Mississippians, how would this affect the everyday people?

- How many jobs does the timber industry provide in this region, and are they considered to be “good” jobs?
 - How does the timber industry contribute to the local and state economy?
- Why is it good that the economy starts implementing small changes to help industry become more sustainable?
 - What are the pros and cons of implementing new systems?
- What does a totally perfect economy look like for Mississippi?
 - What does this entail?
 - Do you think this will be possible?
 - What would the timeframe look like for this to be accepted statewide?

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