

# *Heat and Mental Health*

## **Goal**

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*Build collaboration and advance awareness and capacity to address climate-related public health impacts and implement solutions that improve community health outcomes.*

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## **Introduction**

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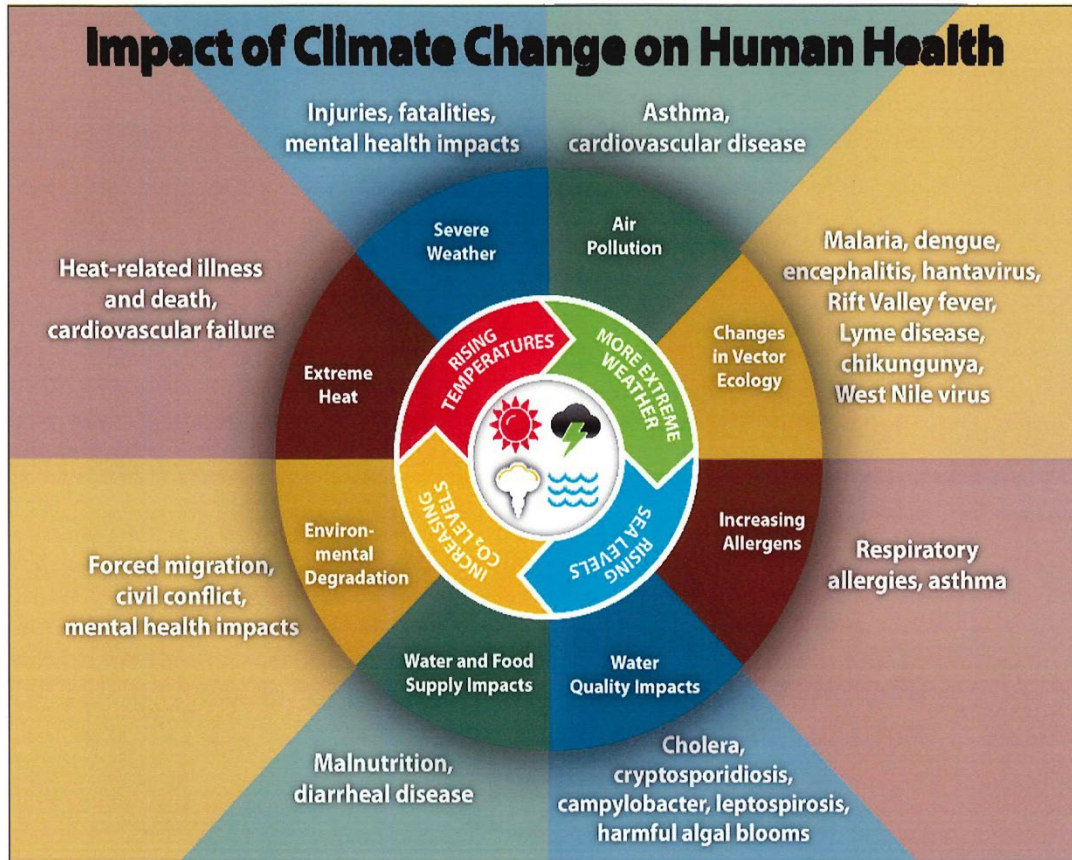
### **Health and Climate Change**

The health of our communities is intrinsically tied to our environment. Due to the interconnected nature of our ecosystems, the ways climate change impacts our resources directly (and indirectly) affects us as well. Thus, as climate change continues to worsen, it is essential to inform and prepare the public and health sectors for its potential health impacts.

Many of the chapters within this Climate Action Plan address health directly or indirectly. Incentivizing less driving, for example, can lower the number of pollutants in the air, which directly improves pulmonary health. It can also encourage people to use more active modes of transportation, such as biking and walking, indirectly improving health by increasing activity. Because much of the County’s work to address climate change’s impacts on physical health are encapsulated in other chapters, this Chapter will focus specifically on heat-related illnesses and mental health.

### **Heat in Alachua County**

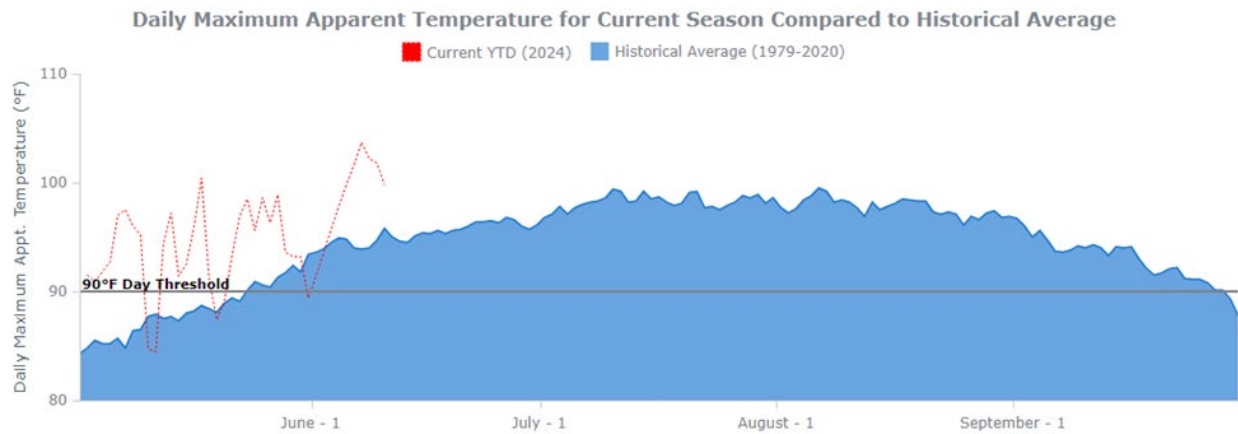
One of the most prominent impacts of climate change on health is an increased risk of heat-related illnesses. Extreme heat events are periods of excessively hot and/or humid weather that can last for multiple days. Extreme heat events are not felt uniformly throughout the County. Dense, urbanized areas of the County experience hotter temperatures than the surrounding rural areas because buildings and other impervious surfaces like parking lots absorb and retain more heat compared to natural land covers (the Urban Heat Island effect). According to the World Health Organization (WHO), “approximately 489,000 heat-related deaths occur each year,” with many of them occurring during unprecedented heat waves.<sup>[1]</sup> While many factors play into heat-related illnesses, one of the most important ones is apparent temperature, or what the temperature “feels like” rather than what it actually is. Alachua County’s (and Florida’s) high humidity as well as urban heat islands (UHIs) play a huge role in making the temperature feel hotter than it is and increasing the risk for heat-related illnesses.



[Fig. # and source need to be added]

Alachua County, like many parts of the world, has experienced unprecedented heat in the last few years. The Climate Vulnerability Assessment showed that extreme heat events in Alachua County will continue to be more intense (hotter), more frequent, and longer lasting. The average daily maximum temperature will increase by approximately 6 degrees Fahrenheit by the end of the 21st Century, a substantial increase in average temperatures. Even more concerning is the combination of temperature and humidity. The project data show that the number of extremely hot days will increase by ten times by 2100.

From January to June 2024, we had 35 days above an apparent temperature of 90°F. (Center for Disease Control and Prevention, 2024) The apparent temperature this year in Alachua County has been higher than the historical average, indicating a pressing need to address heat-related illnesses (see Figure 6.1).



**Figure 6.1: Center for Disease Control and Prevention’s Heat and Health Tracker, Alachua County’s Daily Maximum Apparent Temperature for Current Season Compared to Historical Average**

### Mental Health

This chapter shall partially focus on an often-overlooked aspect of climate change: mental health. Climate change can impact mental health in many ways, including increased stress, anxiety, loss of hope, depression, and feelings of powerlessness.<sup>[2]</sup> The psychological toll on individuals can be significant, manifesting in feelings of ecological grief and *eco-anxiety*—terms that capture the deep sense of loss and apprehension many people experience in response to climate change. This anxiety can come in different shapes and forms. While many experience anxiety relating to climate change as a whole, the gradual impacts of climate change can also cause extreme stress.<sup>[3]</sup> For instance, extreme heat and sea level rise may cause individuals to consider relocating or force them to. Displacement can take a significant toll on emotional wellbeing and heighten economic stress, factors that can impact mental health.

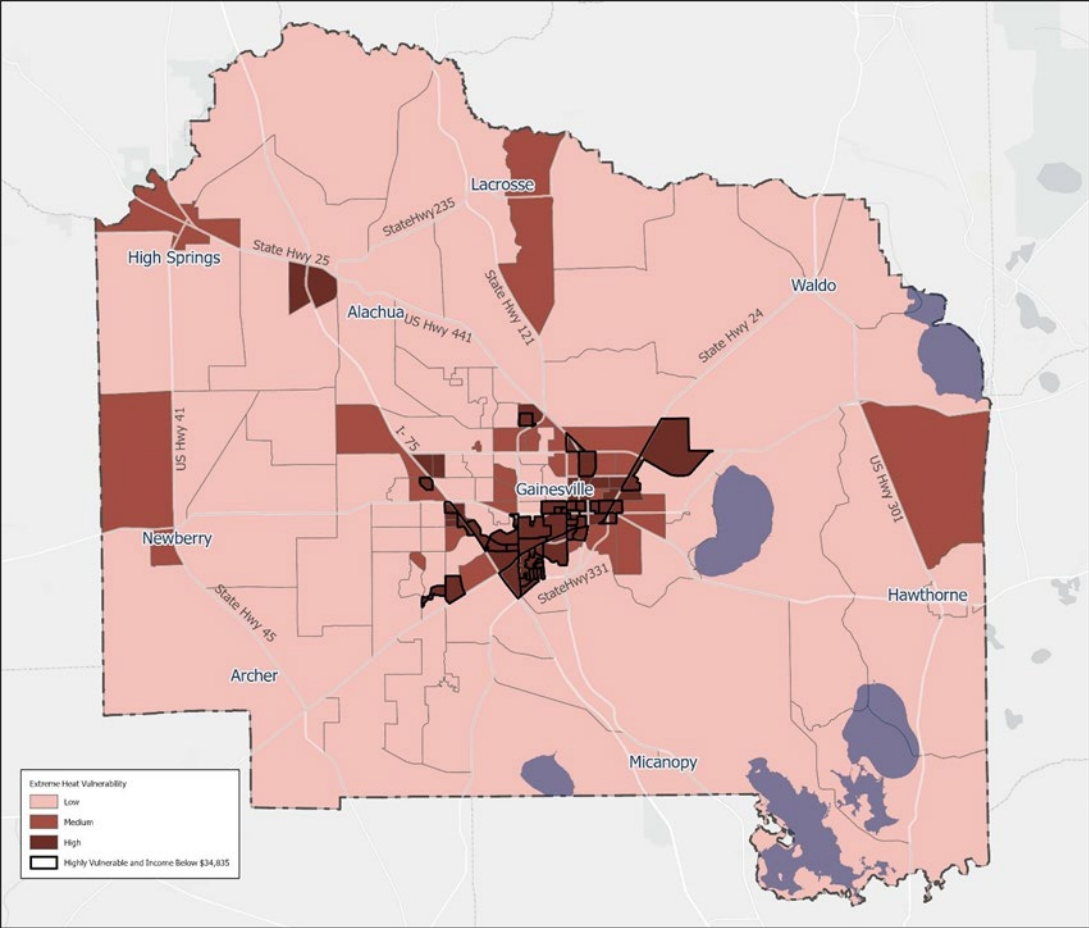
Deteriorating mental health has significant impacts on individuals, affecting their daily lives, habits, and relationships. For this reason, Alachua County is taking proactive measures to provide services to those suffering from eco- or *climate anxiety*.

### Heat Resiliency

Heat-related illnesses disproportionately impact those prone to heat-related illnesses and those without access to adequate cooling and hydration. Those prone to heat-related illnesses include infants and people over 65, who between 2013 and 2022 experienced around “108% more days of heatwave per year than in 1986-2005.”<sup>[4]</sup> Another group that will be impacted are student athletes who practice outdoors. Arduous exercise outdoors, especially right after school hours in the mid-to-late afternoon, increases the risk of heat stroke or stress and dehydration. Figure 6.2 shows extreme heat vulnerability throughout Alachua County.

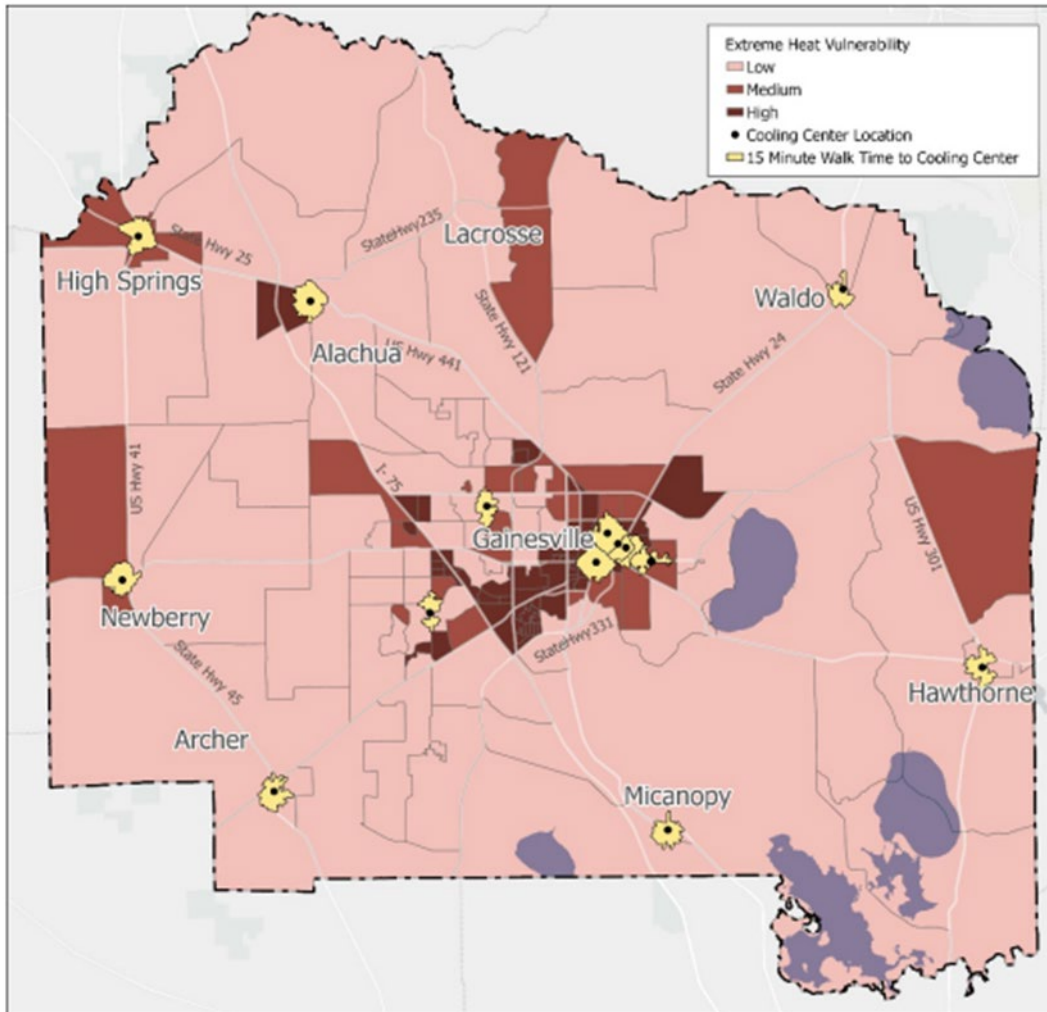
One of the most impacted groups, however, are the unhoused who lack access to cooling centers and regular hydration. Figure 6.3 highlights the significant gaps in cooling centers within the County. In Gainesville, many cooling centers are in a concentrated area in the east part of the city. However, no nearby cooling centers exist in high heat-vulnerability areas toward south and toward west of 30

Gainesville along the I-75 corridors, making access difficult to the unhoused and those with limited mobility options. To address this concern, we need to implement heat mitigation and management strategies that reduce extreme heat exposure and prioritize interventions in areas most vulnerable to heat and among populations least able to manage heat risks.



**Figure 6.2: Extreme heat vulnerability (low, medium, and high colored) for residential areas by census block group in Alachua County.**





**Figure 6.3: Extreme Heat Vulnerability and Cooling Center Access. Areas within a 15-minute walking distance to cooling facilities are shown in yellow**

### Mental Health Resiliency

Studies show that climate anxiety disproportionately impacts younger generations. A national poll in 2019 showed that "57 % of teens said that climate change makes them feel afraid" (Clayton, 2020). Another poll from the American Psychological Association found that almost half of respondents from ages 18-34 "(47%) say the stress they feel about climate change affects their daily lives."<sup>[5]</sup> However, anyone – particularly those interested in environmental issues – can experience climate anxiety.<sup>[6]</sup> Alachua County does not have data on local climate anxiety, but by providing accessible services, we can start the process of understanding the best ways to address it.

### Baseline & Targets

## Alachua County Comprehensive Plan

Alachua County does not include any specific targets aiming to combat heat-related illnesses, though many of its goals indirectly address it.

The Comprehensive Plan does not have any baselines or targets specifically geared towards climate anxiety. However, our Comprehensive Plan includes targets to increase mental health services:

**Policy 1.7.1** Alachua County shall coordinate with service providers and community organizations to promote Mental Health First Aid and other support programs for children, youth, seniors and at-risk populations.

**Policy 1.7.2** Alachua County will support community efforts to provide mentoring of youth in partnership with SBAC, after school non-profit organizations, and the Institute for Workforce Innovation.

**Policy 1.7.3** Alachua County will support efforts of health professionals to identify populations at-risk to target mental health services.

While there is a lack of adequately addressing these issues, our Climate Action Plan provides an opportunity to directly recommend ways to tackle these issues from a climate perspective. Developing policy from a climate perspective would allow us to plan for a future with climate impacts in mind, making us better prepared to face these issues.

## Past and Current Efforts

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### Cooling Centers

A cooling center is a location, typically an air-conditioned or cooled building, that has been designated as a site to provide relief and safe shelter during extreme heat days. The City of Gainesville has designated 15 different locations as cooling centers including all Alachua County public libraries and three community centers. Some of these include:

- Alachua Branch Library
- Archer Branch Library
- Clarence R Kelly Center
- Cone Park Branch Library
- Eastside Community Center at Cone Park
- Hawthorne Branch Library
- Headquarters Library – Gainesville
- High Springs Branch Library
- Library Partnership Branch – Gainesville

- Micanopy Branch Library
- Millhopper Branch Library
- MLK Center
- Newberry Branch Library
- Tower Road Branch Library
- Waldo Branch Library

### Crisis Center Community Support

The Crisis Center provides Mobile Response Teams (MRT) to support community members and students in the county who are struggling with mental health concerns. They also provide counseling services for individuals, couples and families. The Center also works closely with other social service programs to connect people to resources.

### Crisis Center Trainings

The Crisis Center provides 311 training to all volunteers and staff to help them attend to community members’ concerns about weather related disasters. Additionally, the Crisis Center has an 80-hour training for volunteers and a 40-hour training for law enforcement and 911 dispatchers that focuses on suicide prevention, de-escalation and active listening.

They also have 4 staff members and 4 volunteers trained in NOVA’s FCRT (Florida Crisis Response Team responds to mass casualties and natural disasters across the state as well as nationally to assist those affected).

### Future Strategies and Action Items

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#### Outdoor Workers

Heat-related illnesses disproportionately impact individuals who spend hours outside, may it be for work or sports. Best management practices (BMPs) are recommended to employers with outdoor workers, such as providing shade, water, and breaks when the heat index is high. BMPs are also recommended for schools and sports teams when athletes are engaging in strenuous exercise outdoors.

**Table 7.1 Protect Workers from Heat-Related Illnesses**

| Action Plan Components | Jurisdiction | Pros | Cons |
|------------------------|--------------|------|------|
|------------------------|--------------|------|------|

|   |  |   |  |
|---|--|---|--|
| Recommend BMPs (shade, water, rest) for outdoor workers and their employers |  | Prevent heat-related illnesses and deaths for outdoor workers and employers | Cannot <i>require</i> worker heat protection standards |
|---|--|---|--|

### Cooling Centers

As mentioned previously, Alachua County cooling centers are not dispersed evenly, with any areas lacking cooling centers within a 15-minute walking distance. Efforts should be made to not only educate citizens about the available cooling centers, but to expand and add more cooling centers throughout the County. Education of heat-related illnesses as a whole should also be prioritized, emphasizing the symptoms and what actions to take when you notice them.

**Table 7.2 Cooling Centers**

| Action Plan Components   | Jurisdiction | Pros   | Cons                                    |
|--|--------------|--|---|
| Educate citizens about current cooling centers   |              | Increased awareness of available resources and heat-related illness prevention | None                                    |
| Conduct research on potential public cooling centers within the County; collaborate with organizations with buildings (e.g., churches) |              | More cooling centers in the County; avoid building/developing more facilities  | Potential resistance from organizations |



|   |  |  |      |
|---|--|--|------|
| Heat-related illness education campaign |  | Increased awareness of the signs of heat-related illnesses | Cost |
|---|--|--|------|

## Mental Health

### *Crisis Center Phone Lines*

The crisis center currently provides 24/7 crisis and 988 (Suicide and Crisis phone lines) phone lines. They also operate 311 Critical Information phone lines during natural disasters to address community members' concerns. However, to gain more understanding of climate anxiety and its impacts, more specialized trainings and actions are required.

| Table 7.3 Mental Health   |                              |   |      |
|---|------------------------------|---|------|
| Action Plan Components  | Jurisdiction                 | Pros  | Cons |
| Provide ongoing training for staff and volunteers on the biological, psychological and social effects of climate change | Alachua County Crisis Center | Increase efficacy and confidence of staff and volunteers to support our clients through the implementation of evidence-based strategies | None |
| Connect and join other organizations who are conducting outreach events related to climate change                       | Alachua County Crisis Center | Reach a larger audience   | None |

|   |                              |   |         |
|---|------------------------------|---|---------|
| Maintain a systems approach to understanding how migration is impacting infrastructure needs in our community | Alachua County Crisis Center | Understand the needs of our community                       | None    |
| Connect individuals to groups/resources related to climate change   | Alachua County Crisis Center | Meet the needs of our clients                               | None    |
| Increase staffs' knowledge of the intersection of climate and mental health                                   | Alachua County Crisis Center | Meet the needs of our clients                               | Funding |
| Have a greater number of staff/volunteers NOVA trained  | Alachua County Crisis Center | Enable us to respond to those affected by natural disasters | Funding |

## What Can You Do?

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### Know the signs of heat-related illnesses

One of the best ways to prevent heat stroke and stress is by noticing the signs early. Signs of heat exhaustion include:

- Weakness, headache, dizziness, or fainting.
- Paleness.
- Unusually elevated heart rate.
- Fast and shallow breathing.
- Nausea or vomiting.
- Muscle cramps.

Signs of heat stroke include:

- Confusion, altered mental status.
- Slurred speech, loss of consciousness.
- Hot, dry skin, profuse sweating, seizures.
- Extremely high body temperature (above 103°F).

Noticing these signs early and taking action can save lives! For more information, see the County Website. Another good source is the National Integrated health Information System - <https://www.heat.gov/> which includes Heat and Health Tracker by zip code.

### Visit a Cooling Center

If you, or anyone you know, is exposed to the heat or lacks an adequate A/C system, please utilize one of our 15 cooling centers open to the public:

- **Alachua Branch Library:** 14913 N.W. 140 Street, Alachua (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., and Sunday noon – 5 p.m.)
- **Archer Branch Library:** 13266 S.W. State Road 45, Archer (Monday & Sunday closed, Tuesday – Friday 10 a.m. – noon, 1 p.m. – 6 p.m., Sunday noon – 5 p.m.)
- **Clarence R Kelly Center:** 1701 N.E. 8th Avenue, Gainesville (Monday – Saturday, 9 a.m. – 6 p.m., Sunday closed)
- **Cone Park Branch Library:** 2801 E. University Ave., Gainesville (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., Sunday closed)
- **Eastside Community Center at Cone Park:** 2841 E. University Avenue, Gainesville (Monday – Friday 9:30 a.m. – 6:30 p.m., Saturday and Sunday closed)
- **Hawthorne Branch Library:** 6640 S.E. 221 Street, Hawthorne (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., Sunday noon – 5 p.m.)
- **Headquarters Library – Gainesville:** 401 E. University Avenue, Gainesville (Monday and Friday 10 a.m. – 6 p.m., Tuesday – Thursday 10 a.m. – 7 p.m., Saturday 10 a.m. – 5 p.m., Sunday noon – 5 p.m.)
- **High Springs Branch Library:** 23779 W. U.S. Hwy 27, High Springs (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., and Sunday noon – 5 p.m.)
- **Library Partnership Branch – Gainesville:** 912 N.E. 16 Avenue, Gainesville (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., Sunday closed)
- **Micanopy Branch Library:** 706 N.E. Chokolka Boulevard, Micanopy (Monday and Sunday closed, Tuesday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m.)
- **Millhopper Branch Library:** 3145 N.W. 43rd Street, Gainesville (Monday 10 a.m. – 6 p.m., Tuesday – Thursday 10 a.m. – 7 p.m., Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., Sunday noon – 5 p.m.)
- **MLK Center:** 1028 N.E. 14th Street, Gainesville (Monday – Friday 7 a.m. – 7 p.m., Saturday 10 a.m. – 6 p.m., Sunday 2 p.m. – 6 p.m.)
- **Newberry Branch Library:** 110 S. Seaboard Drive, Newberry (Monday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m., Sunday noon – 5 p.m.)
- **Tower Road Branch Library:** 3020 S.W. 75th Street, Gainesville (Monday and Friday 10 a.m. – 6 p.m., Tuesday – Thursday 10 a.m. – 7 p.m., Saturday 10 a.m. – 5 p.m., Sunday noon – 5 p.m.)

- **Waldo Branch Library:** 15150 N.E. U.S. Hwy 301, Waldo (Monday and Sunday closed, Tuesday – Friday 10 a.m. – 6 p.m., Saturday 10 a.m. – 5 p.m.)

### Ask for Help

If you or someone you know is suffering from climate anxiety, do not hesitate to reach out and seek help from a professional or use one of our various services.



## References

- [1] World Health Organization. "Heat and Health." 2024. Accessed October 23, 2024. <https://www.who.int/news-room/factsheets/detail/climate-change-heat-and-health>.
- [2] Hayes, K., Blashki, G., Wiseman, J., Burke, S., & Reifels, L. "Climate Change and Mental Health: Risks, Impacts and Priority Actions." *International Journal of Mental Health Systems*, 2018. <https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0210-6>.
- [3] Clayton, S. "Climate Anxiety: Psychological Responses to Climate Change." *Journal of Anxiety Disorders*, 2020. <https://www.sciencedirect.com/science/article/pii/S0887618520300773>.
- [4] Romanello, M., Di Napoli, C., Green, C., Kennard, H., Lambard, P., & Scamman, D. "The 2023 Report of the Lancet Countdown on Health and Climate Change: The Imperative for a Health-Centered Response in a World Facing Irreversible Harms." *Lancet Countdown*, 2023. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)01859-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)01859-7/fulltext).
- [5] American Psychological Association. "Majority of US Adults Believe Climate Change Is Most Important Issue Today." February 2020. <https://www.apa.org/news/press/releases/2020/02/climate-change>.
- [6] Clayton, S. "Climate Anxiety: Psychological Responses to Climate Change." *Journal of Anxiety Disorders*, 2020. <https://www.sciencedirect.com/science/article/pii/S0887618520300773>.