LATIN AMERICAN & IBERIAN INSTITUTE

Latinxs in STEM:

Nicole Hernández Hammer

Representation matters.

"When a girl sees herself as a scientist,
or a boy sees someone with his skin color as a law student,
it plants a seed that this is possible."

Eva Longoria

LEARNING OBJECTIVES

This resource incorporates activities aligned to the following Common Core Standards:

1. Reading Standards for Informational Text

- **Key Ideas and Details:** *(1) Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text; (2) Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.*

2. Writing Standards

- **Text Types and Purposes:** *(1) Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.*
- **Production and Distribution of Writing:** *(1) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience; (2) Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.*

3. Speaking and Listening Standards:

- **Comprehension and Collaboration:** *(1) Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally; (2) Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.*

Name: _____

Date: _____

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Illustration by: Aaron Fernandez for NBC News;

Before reading:
Use your prior knowledge or take an educated guess to answer the questions below.

1. **What is climate change?**
2. **What are some examples of climate change in the U.S.?**
3. **Which regions of the U.S. are most affected by climate change?**
4. **What can you (personally) do to prevent climate change from worsening?**

While reading:
As you read the article from the *Miami Herald*, answer the following guiding questions and annotate the key information presented in the text.

1. What issue has the Union of Concerned Scientists predicted for Miami?
2. Why is this an issue?/ What are the effects?
3. Which parts of the U.S. are most affected by this issue (two are listed)? And why do you think these areas are the most impacted?
4. Which groups of people are most impacted by this issue and why?
5. What solutions does Harris discuss for this issue?
6. After reading the text, identify Harris's main argument or purpose in writing the article (why did Harris write this article?). Use evidence from the article to prove your response.

Union of Concerned Scientists

Podcast : Menendez, Alicia, host. "Why Climate Scientist Nicole Hernández Hammer Takes the Fight to the Streets." *Latina to Latina*, Lantigua Williams &Co., February 15, 2019. LatinaToLatina.com, https://radiopublic.com/latina-to-latina-GKkveD/s1!07377 .

This Podcast is also available on Radio Public, Spotify and Apple Podcast!

Click here for the transcript: of this interview with Hernández Hammer.

As you listen to the *Latina to Latina* interview between Alicia Menendez (the host) and Nicole Hernández Hammer (an important climate scientist and activist), take notes and answer the questions below. The times for when each question is answered are listed under each question.

1. **What was Hernández Hammer's childhood like?**
   (00:00-05:00)

2. **How does Hernández Hammer describe her experience as a Latina in STEM? Why do you think she feels this way?**
   (05:00-07:00)

3. Hernández Hammer says that being a Latina has been to her advantage. **What reasons does she give?**
   (07:00-08:25)

4. Hernández Hammer talks about "ground truthing;" **in your own words, what is ground truthing?**
   (08:50-9:02)

5. **What did Hernández Hammer learn from going out to the field to do ground truthing? And, how did she use this data and the stories she gathered to inspire change?**
   (09:02-14:21) *skip ad: 10:50-12:30*

6. Hernández Hammer transitioned from the academic field to social activism. **How has she gotten involved with community efforts against climate change?**
   (14:21-18:55)

7. **What is the call to action?** According to Hernández Hammer, **what problems will we experience from climate change and what do we need to do?**
   (19:00-23:40)

Name: _____

Call to Action

The United States EPA (Environmental Protection Agency) has an upcoming conference to discuss climate change issues and resolutions. Using information from the *Miami Herald* article and from the *Latina to Latina* podcast interview of Nicole Hernandez Hammer, write a persuasive essay to identify a current issue that is happening in Florida due to climate change and to outline how community members and government regulations can resolve or prevent this issue. Be sure to explain how the issue is currently impacting residents and communities in Florida and specify who is being impacted the most by this issue. Use the space below to brainstorm your argument.

Introduction

Hook:

Thesis:

First Body Paragraph: Define the Climate Change Issue *(what, who, where, when, how, why)*

Second Body Paragraph: Propose your solution *(what should community members do and what should the government do)*

Conclusion

Restate your thesis:

Closing statement:

CITATION:
Harris, Alex. ""Florida Really Tops the Charts' of States Climate Change Will Heat Up, Report Says.'" *Miami Herald*, 16 July, 2019, https://www.miamiherald.com/news/local/environment/article232658492.html

Miami Herald

'Florida Really Tops the Charts' of States Climate Change Will Heat Up, Report Says

Alex Harris. 16 July, 2019

Miamians are already used to stifling heat waves that leave them sprinting from air-conditioned cars to air-conditioned buildings or flocking to the beach to cool off. Or so they think.

But if a new report on climate-change induced global warming is right, residents could feel the heat a lot more by the middle of the century. Scientists from the climate advocacy group Union of Concerned Scientists are predicting that the city could go from a couple weeks a year that feel like 100 degrees to nearly four months of scorching hot days, with the rest of Florida not far behind.

High temperatures are linked to all kinds of health problems, from heart and lung conditions to exacerbating mental health issues. In South Florida, almost a dozen elderly people died when the air conditioning went out after Hurricane Irma. Soaring thermometer readings have already forced some outdoor workers to shift their labor earlier or later in the day.

"Florida really tops the charts on so many different metrics," said Erika Spanger-Siegfried, lead climate analyst for the group. "The Southeast region leads the nation, and Florida is the state within that region that will be most affected."

Spanger-Sigfried and her team analyzed historical heat records from 1970 to 2000 to come up with historical averages for cities, counties, states and regions in the lower 48 states, and used 18 different climate models to project temperatures into the future. What they found: with no action to cut carbon emissions, temperatures could soar to harmful, even deadly, levels by mid-century.

High temperatures are historically most common in the Southwest, where it got so hot in 2017 that airplanes couldn't take off.

But it's not temperature alone that matters for physical well-being. As most Floridians already know, it's not the heat —it's the humidity.

"Our bodies can cope with high temperatures if we can sweat," said Spanger-Siegfried. "But as the humidity rises, it gets harder for our body to cool."

The heat index is a combination of temperature and humidity that results in a "feels like" temperature.

Right now, there are about 25 days a year that feel like they're above 100 degrees in Florida, like the heatwave last month. Without action to change emissions, scientists estimate there will be 105 of those 100 degree plus days a year in Florida in a few decades, around 2036 to 2065. By late century, that number could climb to 141 days.

Predictions for Miami-Dade County are worse. Instead of the statewide average of 25 days where it feels like 100 degrees, Miami-Dade already has 41 and by the middle of the century, that could be 134. That's more than any other county in the state.

The researchers created an interactive tool to show how hot it might get in specific cities and counties depending on how much climate change is slowed, or if it's not slowed at all.

More hot days spells trouble for outdoor workers, who don't always have strict guidelines for breaks. More than half of agricultural workers in Homestead surveyed by the organization WeCount! last year reported they weren't allowed to rest in the shade, and 69 percent said they had experienced symptoms of heat-related illness.

It doesn't help that the natural instinct when the temperatures rise is to crank up the AC, which Spanger-Siegfried pointed out consumes even more electricity and burns even more fuel. "If we use dirty sources of fuel to keep our indoor areas cool, we're making our outdoor areas warmer," she said. Not that everyone even has AC. Federal rules for public housing don't require air conditioning, leaving low-income residents to buy their own or suffer without one.

On a hotter planet, people who use public transit will also bear the brunt of the higher temperatures. While Miami often reaches intense temperatures, the county installed its first — and what appears to be its only — air-conditioned bus stop in 2016.

A cheaper way to cool down urban areas, which are usually hotter than rural areas thanks to all the metal, glass and pavement, is nature's original solution: trees. Miami-Dade did a tree canopy survey in 2016 with the University of Florida and Florida International University and found that the county has about 20 percent of its land covered by trees, out of a possible 44 percent. Researchers found the trees were clustered in wealthier, whiter neighborhoods like Coral Gables and were lacking in lower income neighborhoods primarily occupied by people of color.

The county began the Million Trees Miami program to solve the problem and bring the total average canopy in the county up to 30 percent by 2020. They've since scrapped the deadline, said Gabriela Lopez, community image manager for Neat Streets Miami, and instead just focus on adding trees wherever they can.

"We have been able to record the planting of approximately 300,000 trees. However, we know that more trees have probably been planted since the initiative began," she said.

But while trees can help cool down a neighborhood, soak up flood waters and even raise property values, the ultimate solution to stop rising temperatures at their source is to emit less into the atmosphere, said Spanger-Siegfried.

"We need to start and end with thinking about making emissions cuts," she said.

ALEX HARRIS

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Alex Harris covers climate change for the Miami Herald, including how South Florida communities are adapting to the warming world. She attended the University of Florida.