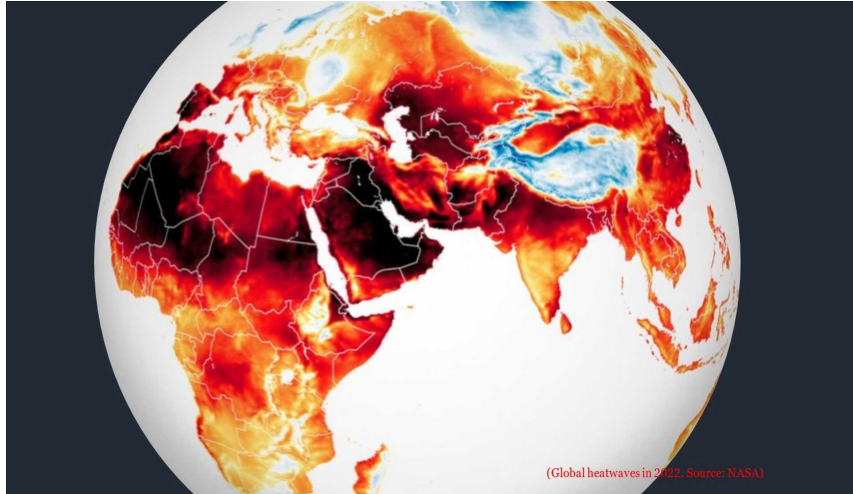


Heat Waves Across Hemispheres: Merrimack Valley vs. Asunción Paraguay

Heat and Human Rights:
Local vs. Global Perspectives



Image Analysis: Notice & Wonder



What do you notice?

What do you wonder?

Contextual Notes

- Temperatures are recorded in degrees Fahrenheit (°F) and relative humidity as a percent.
 - Heat index combines temperature and humidity to show how hot it feels; higher humidity makes high temperatures feel much hotter.
- The Merrimack Valley data are for midsummer (**July**) in the **Northern Hemisphere**;
 - Paraguay data are for mid-January (**summer in the Southern Hemisphere**).
 - Both sets represent a multi-day heat wave so students can compare similar seasonal extremes.
- When studying human rights and outdoor workers:
 - higher heat index days (especially above 100-105) increase risk of heat illness for outdoor workers
 - and can force changes in work schedules, rest breaks, hydration needs, or stoppages
 - all of which relate to workplace safety and human rights.

City / Region	Date	Maximum Temperature (°F)	Minimum Temperature (°F)	Average Relative Humidity (%)	Heat Index Peak (°F)	Notes (weather conditions)
Merrimack Valley, MA (local)	July 15, 2023	95	72	60%	103	Clear, long daytime heat with light afternoon breeze
Merrimack Valley, MA (local)	July 16, 2023	97	74	65%	108	Humid, late afternoon thunderstorms nearby
Merrimack Valley, MA (local)	July 17, 2023	94	71	58%	100	Sunny morning, higher humidity in evening
Merrimack Valley, MA (local)	July 18, 2023	99	75	68%	114	Heat advisory issued; very humid
Merrimack Valley, MA (local)	July 19, 2023	96	73	63%	105	Warm with occasional cloud cover

City / Region	Date	Maximum Temperature (°F)	Minimum Temperature (°F)	Average Relative Humidity (%)	Heat Index Peak (°F)	Notes (weather conditions)
Asunción Region, Paraguay	January 15, 2023	100	79	75%	122	Hot, very humid — typical summer conditions in central Paraguay
Asunción Region, Paraguay	January 16, 2023	102	80	78%	126	Heat wave day with heavy humidity and light winds
Asunción Region, Paraguay	January 17, 2023	101	81	77%	125	Cloudy early, then hot and muggy
Asunción Region, Paraguay	January 18, 2023	103	82	80%	130	Severe humidity; some outdoor work stopped midday
Asunción Region, Paraguay	January 19, 2023	99	78	74%	120	High humidity with late afternoon showers possible



Multiple Choice Question

Based on the text, which of the following is a direct effect of high heat index days (over 100-105°F) on human activities?

- A. More people are likely to exercise outdoors.
- B. Decreased need for water consumption.
- C. Outdoor workers are more likely to get sick from the heat.
- D. Increased tourism in areas experiencing heat waves.



Which answer did you pick and why?

Based on the data provided, compare the heat index peaks in Merrimack Valley and Asunción, Paraguay. **What can you infer about the potential impact on outdoor workers in each location?**

Claim:

Evidence:

Reasoning:

Possible Words

high, strong, intense

summer, hot, warm

100, 102, 105

100, 104, 106

dangerous, extreme, severe

climate change, global warming, rising temperatures

safety measures, protection, rest breaks

Both Merrimack Valley and Asunción, Paraguay, show very _____ heat index peaks during their _____ months, which means workers in both hemispheres are facing similar heat challenges.

The data table shows that the heat index in Merrimack Valley reached about _____ °F and in Asunción reached about _____ °F. This shows that both places experience _____ heat levels for outdoor workers.

This suggests that _____ is affecting people in both places, and outdoor workers everywhere need protection and _____ during extreme heat waves.

Prompts Pick one of these to answer: Highlight it below!

Copy this to the next page to complete your answer

1. “We’re looking at delivery workers in Paraguay, but what about here in Merrimack Valley? How do our local heat waves compare?”

1. We’re comparing delivery workers in Paraguay, but we also need to ask about Merrimack Valley. Our local heat waves...

2. “Climate change isn’t just happening far away. What do our local numbers show about how hot it feels for workers here?”

2. Climate change isn’t just far away—it’s here too. Our local numbers show that workers in Merrimack Valley...

3. “If delivery workers in Paraguay face risks from extreme heat, what challenges might workers in our own community face?”

3. If delivery workers in Paraguay face extreme heat risks, then workers in Merrimack Valley might also...

4. “Why is it important to compare global stories with local data? How does that help us understand climate justice?”

4. If delivery workers in Paraguay face extreme heat risks, then workers in Merrimack Valley might also...

5. “What can we learn by putting Merrimack Valley’s heat index side-by-side with Paraguay’s, and what does that tell us about worker safety everywhere?”

5. Putting Merrimack Valley’s heat index next to Paraguay’s teaches us that worker safety everywhere...

Vocabulary Term	Definition
Hemispheres	Half of the Earth, usually divided into the Northern and Southern halves by the Equator, or the Eastern and Western halves.
humidity	The amount of water vapor in the air.
index	A system or scale used to measure or compare things.
Relative	Considered in relation or proportion to something else.
advisory	An official announcement that warns people about a possible danger or problem.

Answer the question you picked on slide 7 , you may use the sentence starter provided there, or your own. Please use TWO vocabulary words on the left in your answer.