

Risk Communication and Health Literacy: Bridging Fields to Support Protection Against Heat

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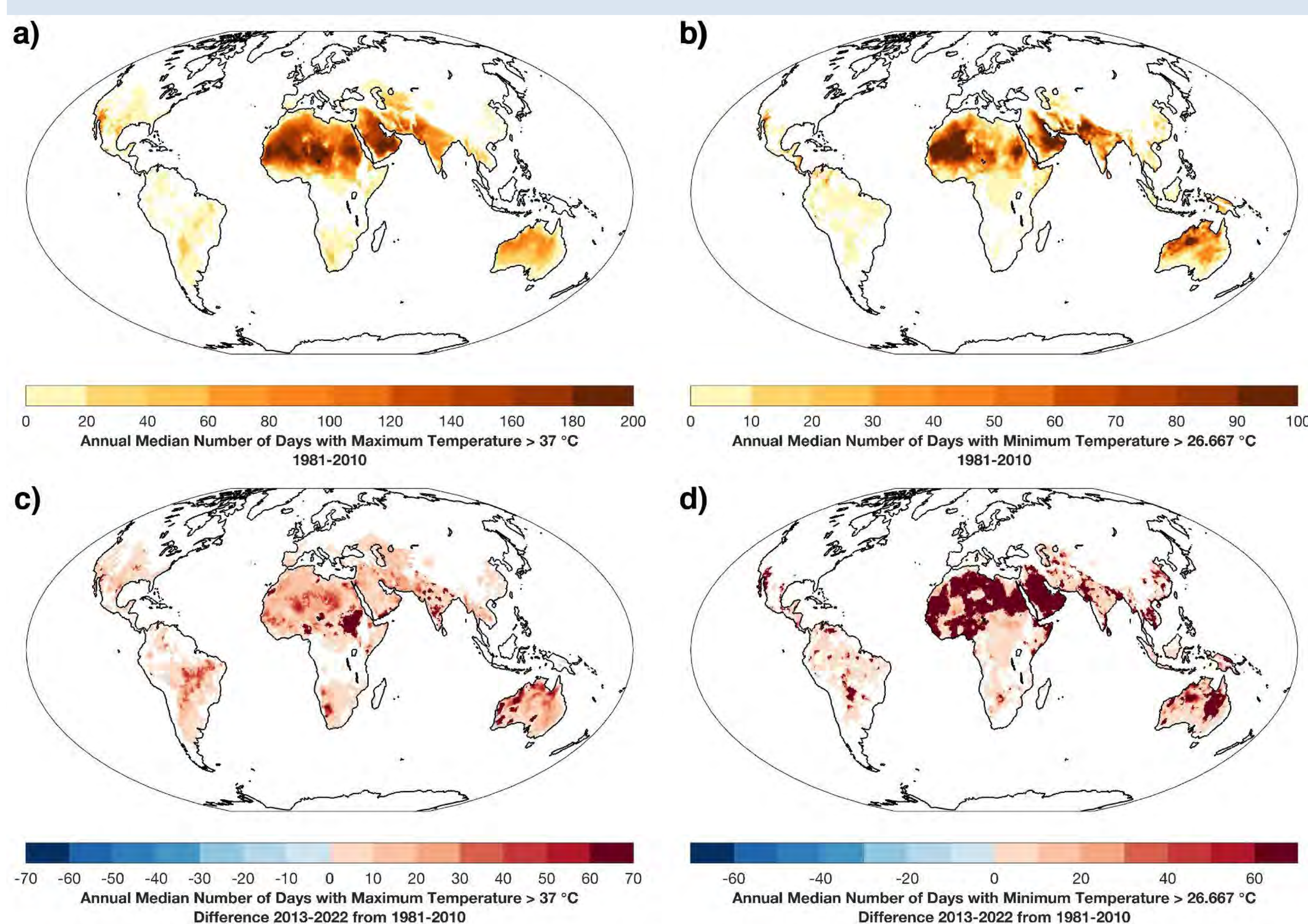
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Why Bridge Risk Communication and Health Literacy?

Climate change is driving a global increase in maximum and minimum temperatures, increasing human exposure to heat.



Heat-related illnesses are often preventable when people are able to take protective action. This requires the public to be informed about heat risk, which can be facilitated by:

- (1) Communicating with the public about heat risk when it is imminent (i.e., by providing heat risk communication).
- (2) Educating the public about heat risk so that it is better prepared to interpret and make use of the messaging received (i.e., by improving heat-health literacy).

The field of **risk communication** offers recommendations and guidance that can help inform heat risk communication (e.g., related to warning source and channel as well as to message purpose, content, and style). The field of **health literacy** offers proposed pathways that can be followed to help educate the public about heat risk (e.g., through school curricula development, healthcare setting integration, and community theater performance).

Bridging these two fields and the practitioners within them promises to result in the creation of shared knowledge and language around heat risk so that efforts to inform the public are complementary, consistent, and mutually reinforcing.

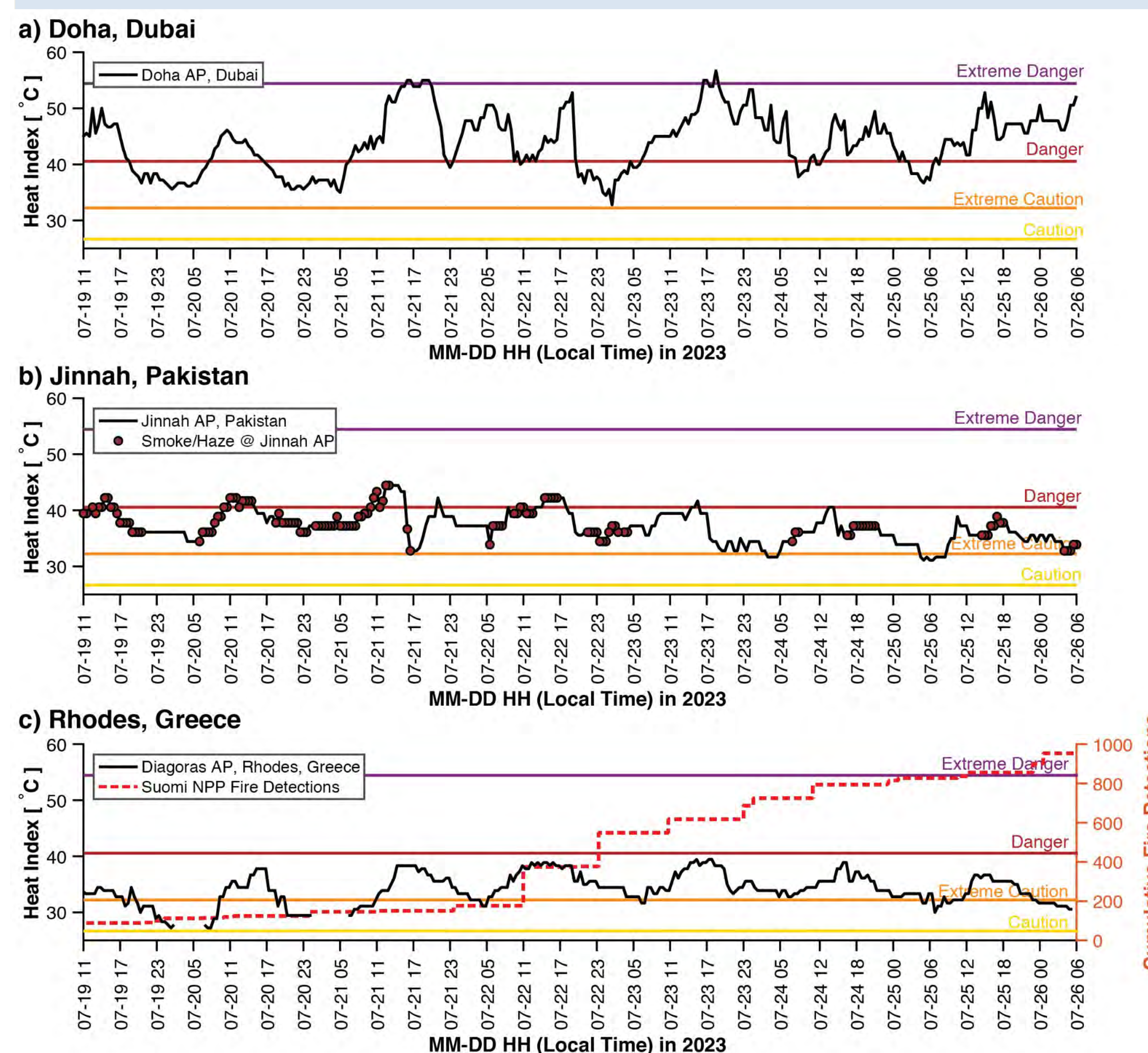
The Need for Two-Way Communication

Practice within both risk communication and health literacy has a history rooted in the information deficit model (i.e., the one-way exchange of information from messengers to receivers). To be effective, practitioners within these fields will need to collaborate not only with one another but also with the audiences they intend to serve.

This two-way communication will ensure that the shared knowledge and language created around heat risk is informed - critically - by the knowledge, values, needs, and interests of those audiences.

The Need for Dynamic Risk Communication and Health Literacy

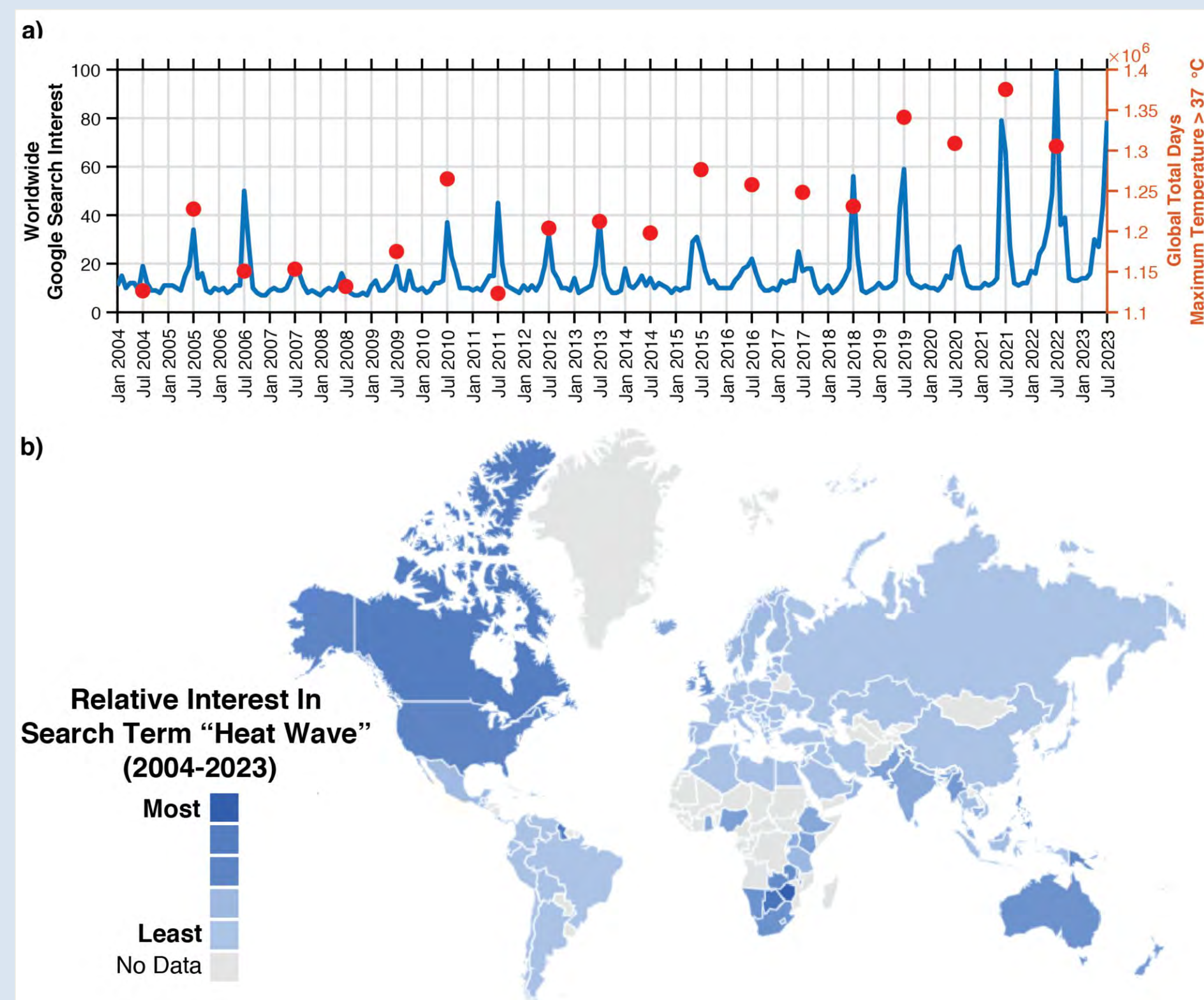
Bridging risk communication and health literacy around heat must be **comprehensive** and **dynamic** in response to compounding environmental conditions. Consider the week of 19-26 July 2023:



In Doha, Dubai, heat index values were in the extreme caution to extreme danger ranges (top). Despite lower heat index values in Jinnah, Pakistan, observations of smoke and haze during 42% of hours indicate decreased air quality (middle). A heatwave in Rhodes, Greece, elevated heat index values into the caution to extreme caution range, with wildfires creating a compound hazard (bottom).

Global Online Interest in Heat

Increasing global online interest in heat suggests that the public is open to receiving heat information. Interest was estimated using the Google Trends tool (<https://trends.google.com/>) for the term “heat wave” (global domain; 2004-2023). We find an overall growing interest that is generally positively correlated with the total number of days; the value of days is reported as the sum of days and grid cells with a maximum temperature exceeding 37°C.



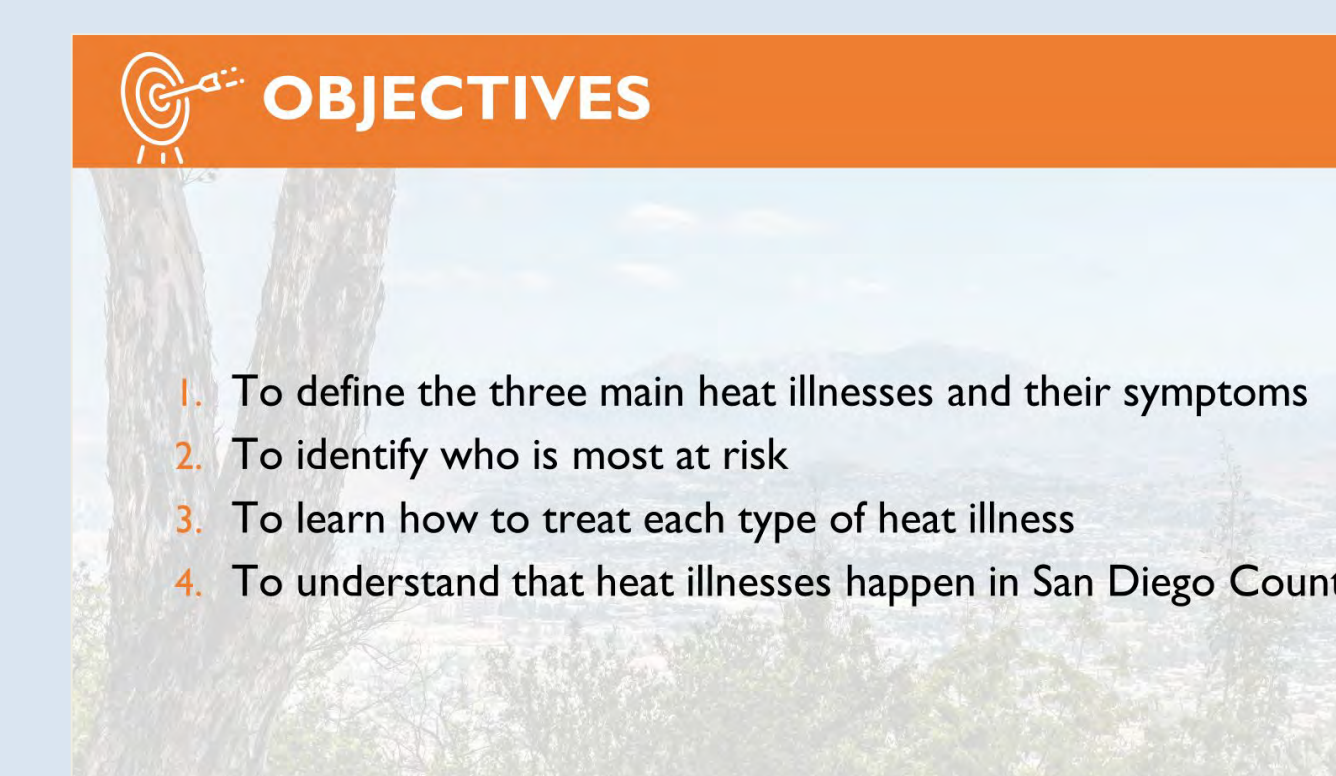
Example of Bridging: Heat Risk Education Curriculum for San Diego County (CA)

Six-module (M) heat risk education curriculum for San Diego (SD) County peer-trainer networks developed collaboratively - **through multi-way exchange** - between NWS SD, County of SD, and five SD community-based organizations (CBOs):

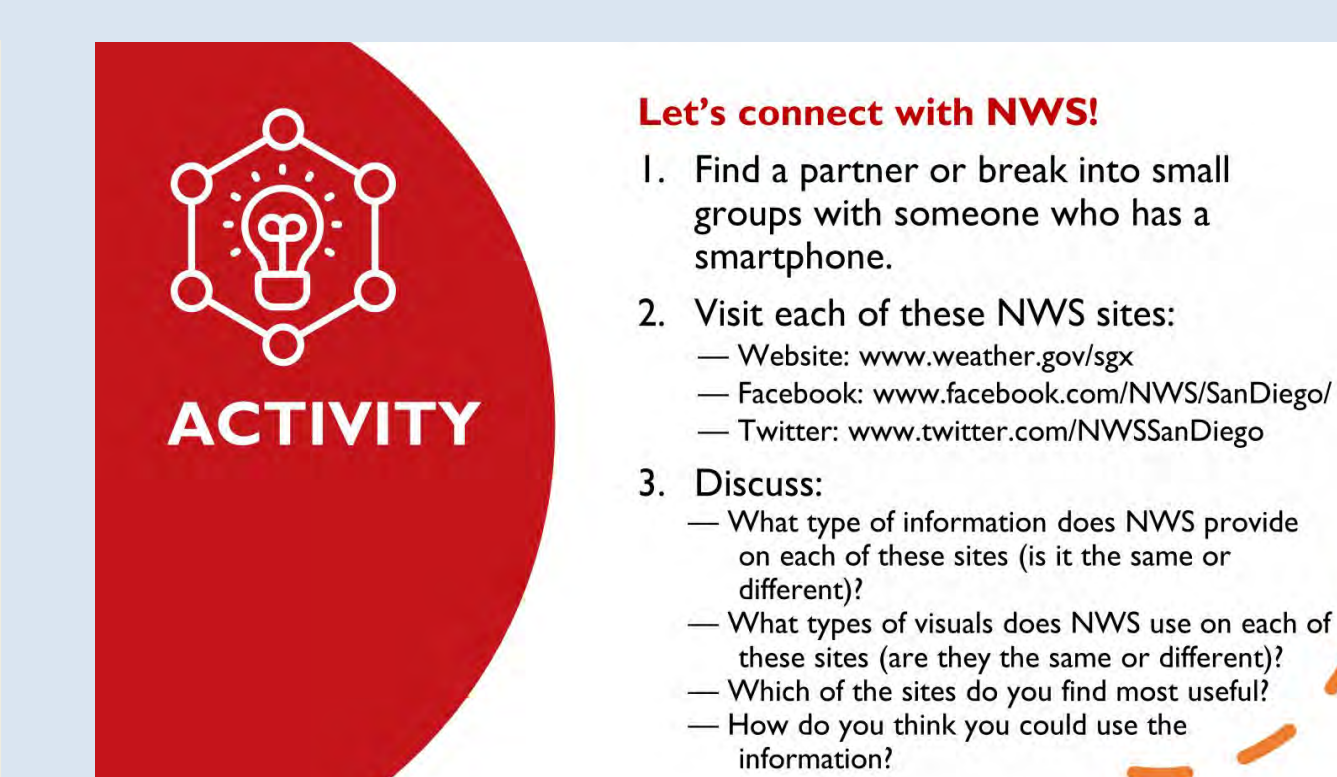
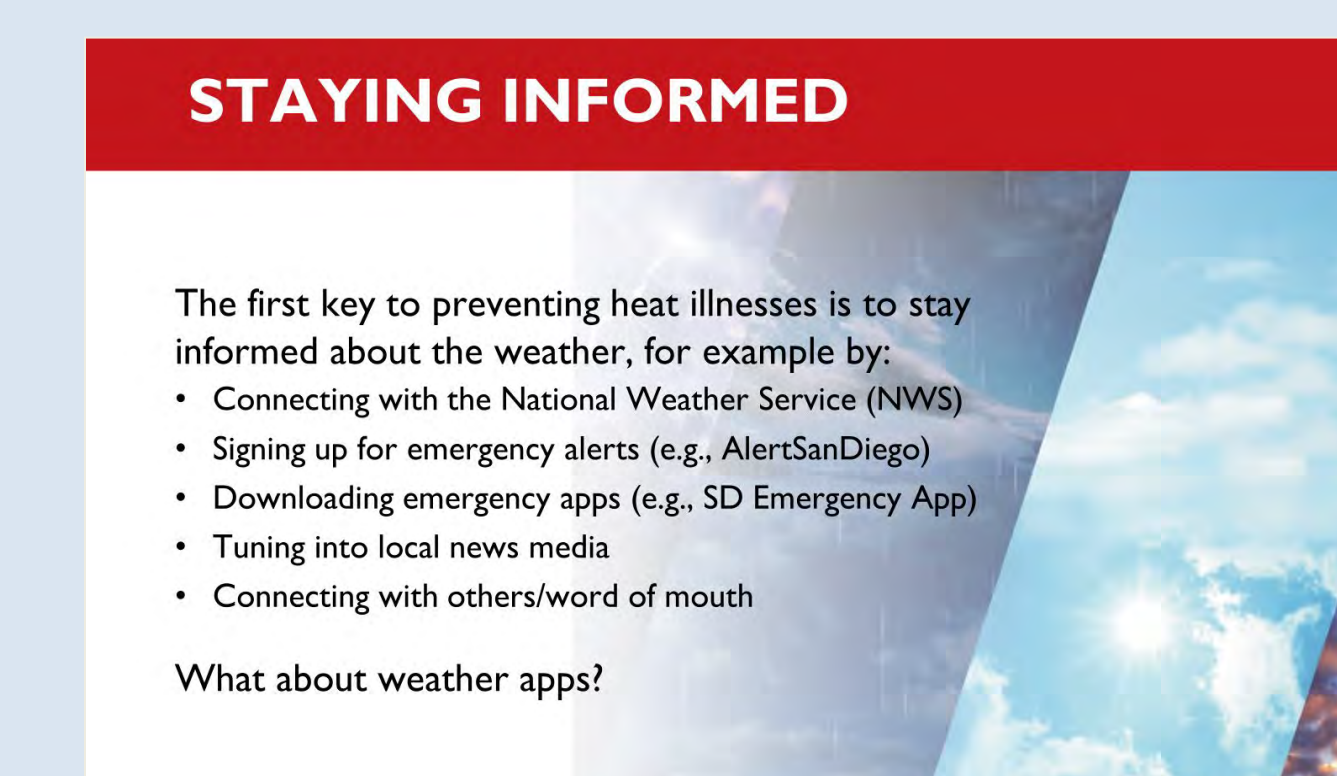
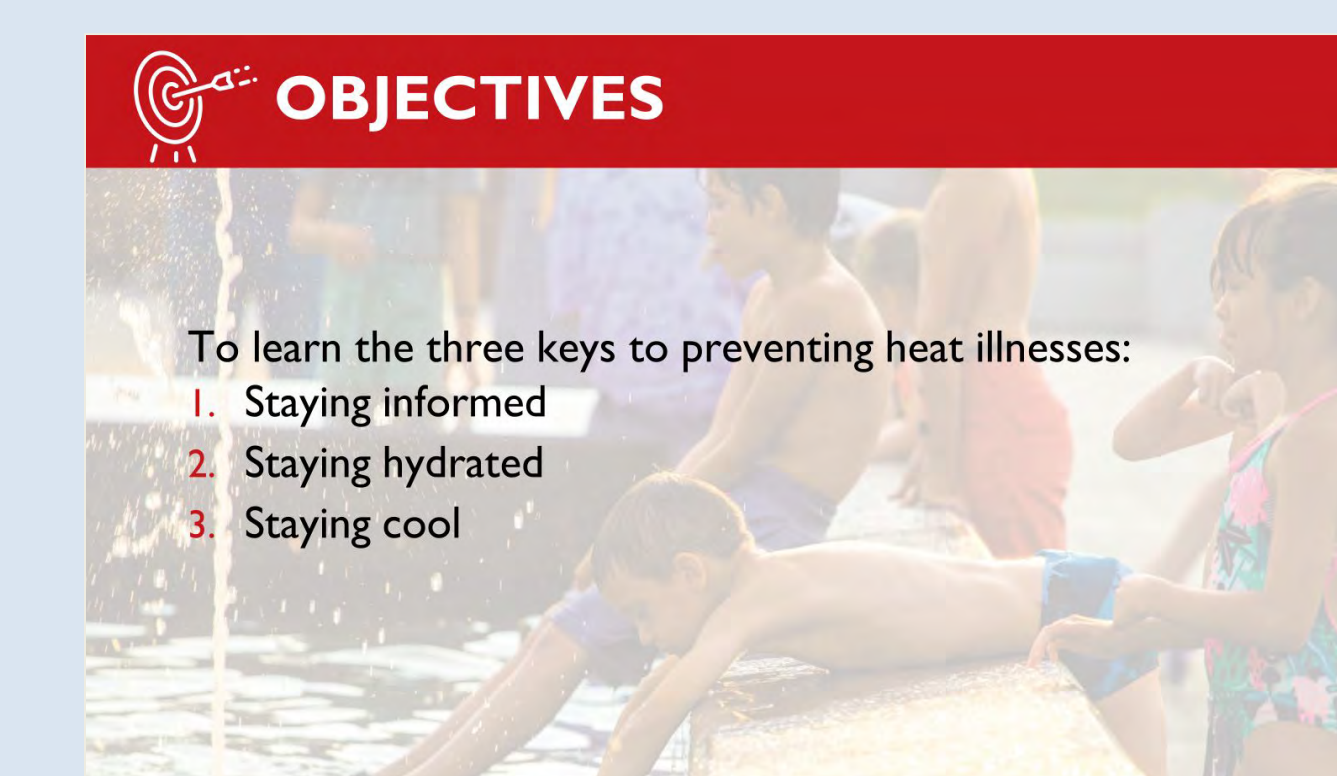
- M1:** Heat Waves: What Are They & Why Are They Changing?
- M2:** Heat Illnesses: What Are They & How Do You Treat Them?
- M3:** Heat Illnesses: Who Is At Risk & Why?
- M4:** Heat Illnesses: How to Prevent Them
- M5:** Heat Risk: How to Take Action in Your Community
- M6:** Communicating about Global Warming and Heat Risk: Challenges & Strategies

Multi-way exchange allowed for content to be developed according to the **knowledge, values, needs, and interests of CBOs** while at the same time creating **shared knowledge and language around heat risk for all project partners** (see M2 & M4 sample slides). This included NWS SD and County of SD - two primary risk communication organizations toward which the curriculum also orients audiences (see M4 sample slides).

Sample Module 2 Slides



Sample Module 4 Slides



Next Steps: Curriculum Evaluation

10 peer-trainers have been trained on the curriculum and it is now under evaluation for public release with community audiences in English, Spanish, and Vietnamese versions. The evaluation will examine the effectiveness of the curriculum in generating increased knowledge in and protective action among those audiences.



For Further Reading

← VanderMolen and Hatchett 2024



VanderMolen et al. 2023 →