AIHA®

HEALTHIER WORKPLACES | A HEALTHIER WORLD

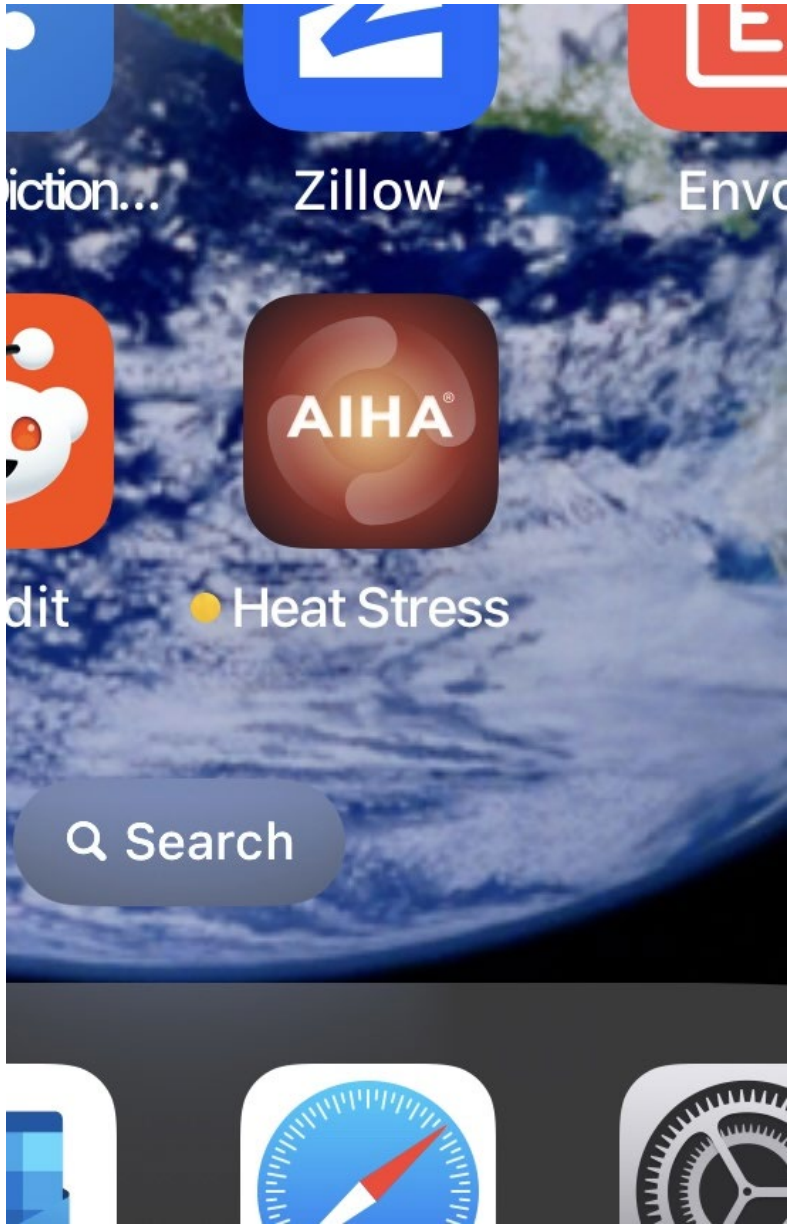
NEW AIHA HEAT STRESS APP

Introduction & Overview

Revised: July 3, 2024

AGENDA

- Impact of heat on workers
- Absence of accurate, reliable heat stress data for workers
- AIHA's response to the problem
- New heat stress app functionalities
- Call to action / beta test procedures



IMPACT OF HEAT

- Workers who are exposed to extreme heat, especially those engaged in strenuous physical activities may be at risk for heat stress.
- Occupational exposure to heat can result in injuries, disease, reduced productivity, and death.
- Heat stress is an increasing problem for many workers, particularly those located in densely populated areas closer to the equator where temperatures are expected to rise in relation to the changing climate
- **Heat Stress** = external conditions resulting in **Heat Strain** = impact on individual
- Underlying physiological factors can exacerbate the body's response to heat stress (these are NOT accounted for in app, but are called out)

IMPACT OF HEAT

- Exposure to extreme heat can result in occupational illnesses caused by heat stress, including heat stroke, heat exhaustion, heat syncope (fainting), heat cramps, heat rashes, or death.
- Heat can also increase workers' risk of injuries, as it may result in sweaty palms, fogged-up safety glasses, dizziness, and may reduce brain function responsible for reasoning ability, creating additional hazards.
- Those at risk of heat stress include outdoor workers (e.g., firefighters, construction workers, miners, farmers/ag workers) as well as indoor workers in hot environments (e.g., factory, bakery, boiler room workers).
- Ver 1 of this app is currently designed for outdoor workers only. A future Ver 2 is envisioned for indoor workers in unacclimatized environments.

ABSENCE OF RESOURCES

- Existing OSHA/NIOSH app is based on Heat Index.
- Wet Bulb Globe Temperature is more comprehensive indicator of Heat Stress (source: National Weather Service)
- Additional factors:
  - Type of Clothing
  - Sun Exposure (full sun to shade)
  - Other factors not readily quantifiable (e.g., acclimatization, underlying health conditions)

AIHA'S RESPONSE

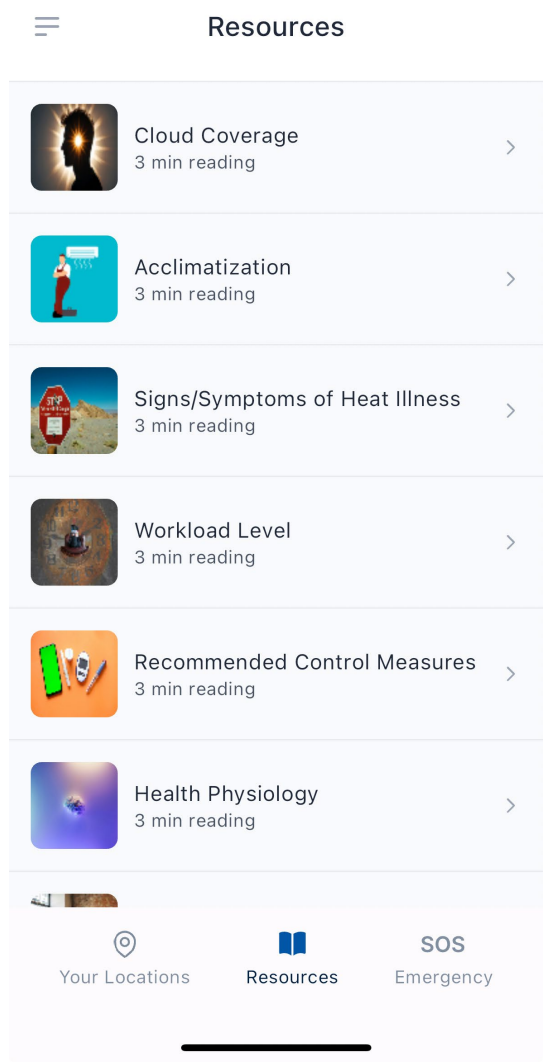
- Proposed by the AIHA Thermal Stress Working Group (open to anyone)
- A FREE app compatible with both iOS and Android platforms
- No pop-up ads
- Available in English, Spanish, Portuguese, and French
- Ability to pull live weather data from your local National Weather Service
- Risk stratification for workers
- Educational information
- Resources for help

APP FUNCTIONALITIES

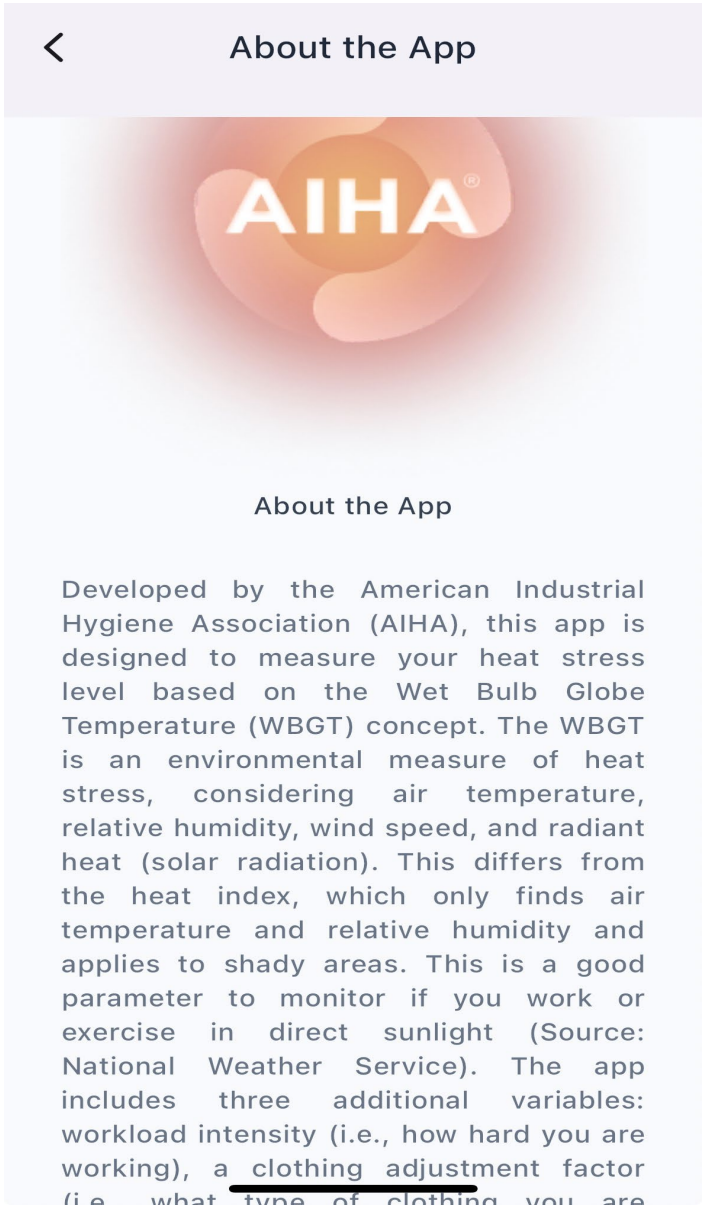
- Current and forecasted WBGT index (and heat index)
- User inputs:
  - Location (may add multiple)
  - Workload intensity
  - Type of clothing
  - Cloud cover
- Calculation of adjusted WBGT to calculate Heat Stress Risk Level
- Recommended Heat Stress mitigation/prevention measures

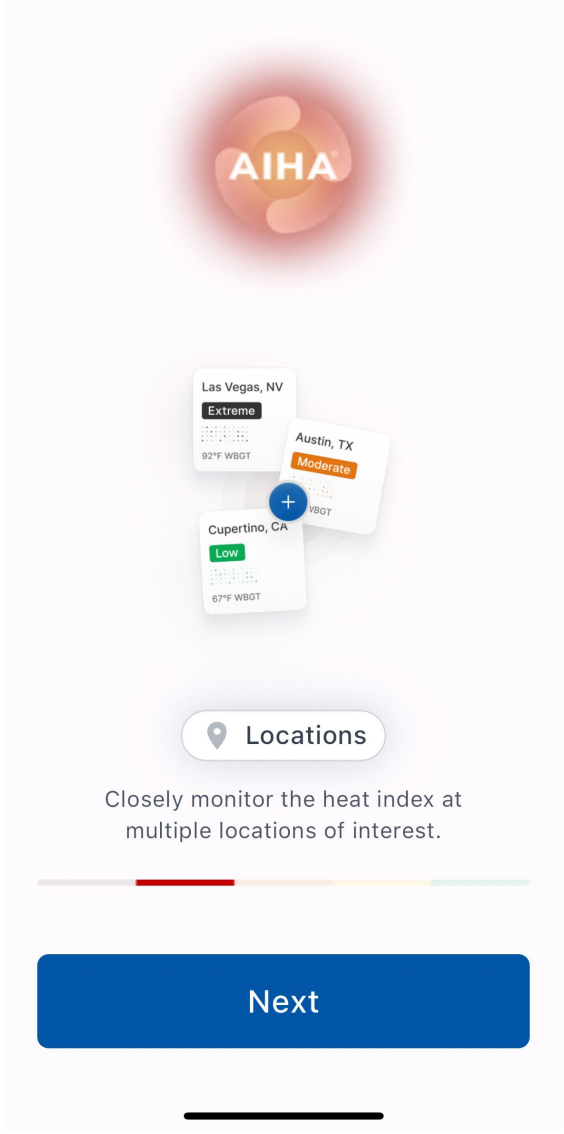
APP FUNCTIONALITIES

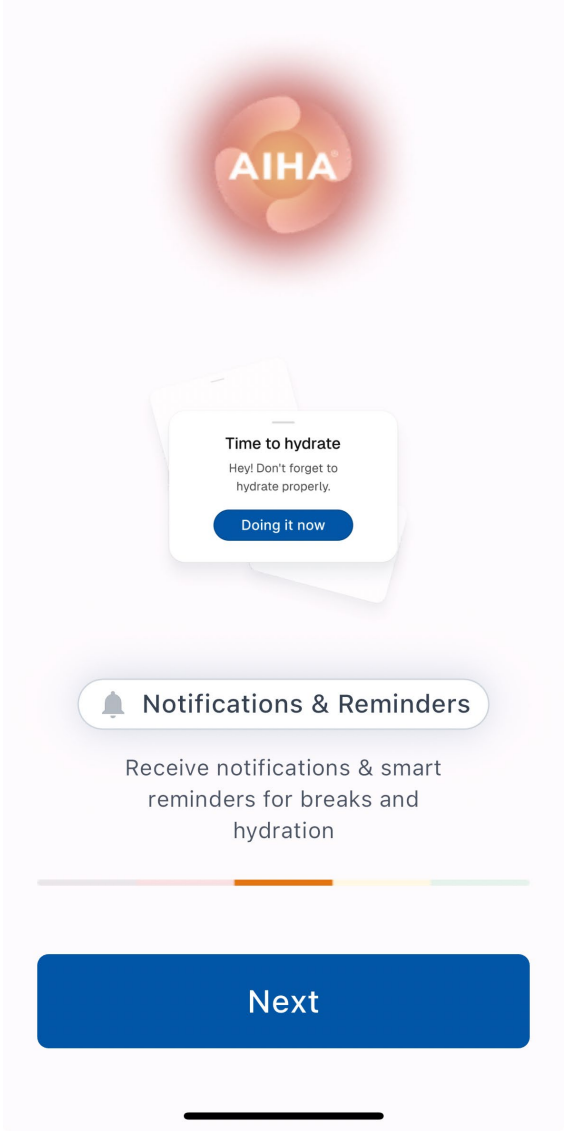
- Background information on:
  - Cloud Coverage
  - Acclimatization
  - Signs and Symptoms of Heat Illness
  - Workload Level
  - Recommended Control Measures
  - Health Physiology
  - Clothing Adjustment Factor
- First Aid Recommendations
- Timer Notifications (to alert app users when to hydrate, rest)
- Feedback & Contact Us



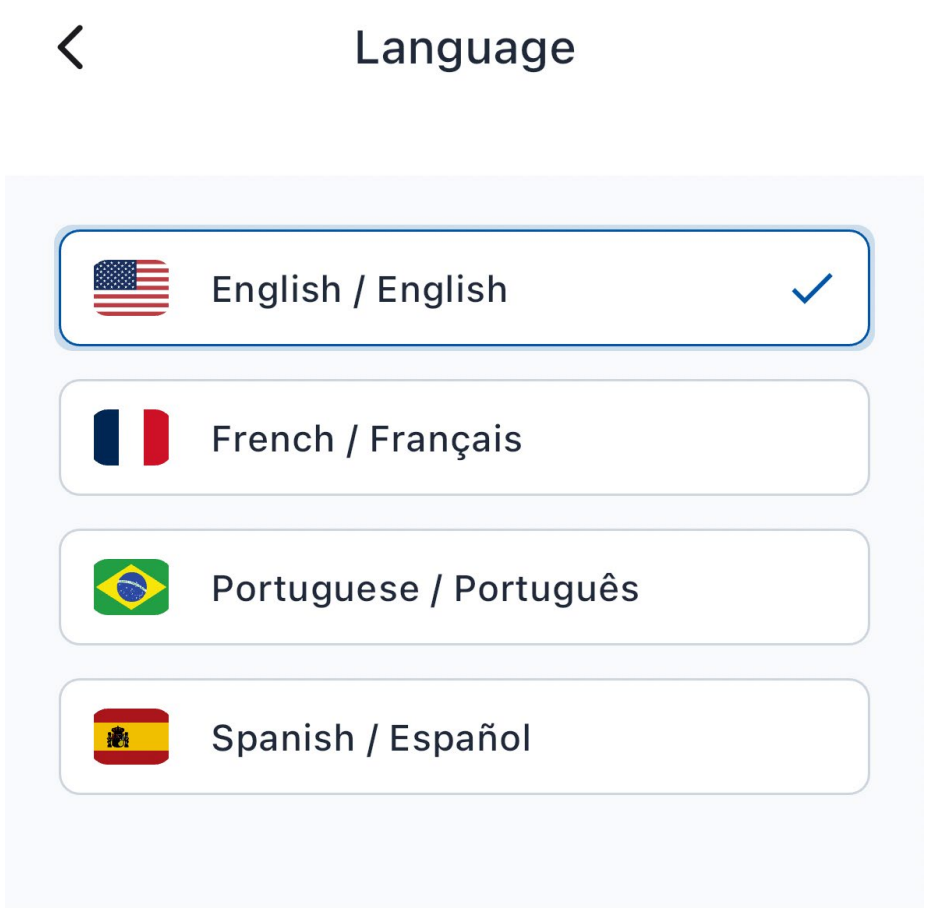
Welcome Screens



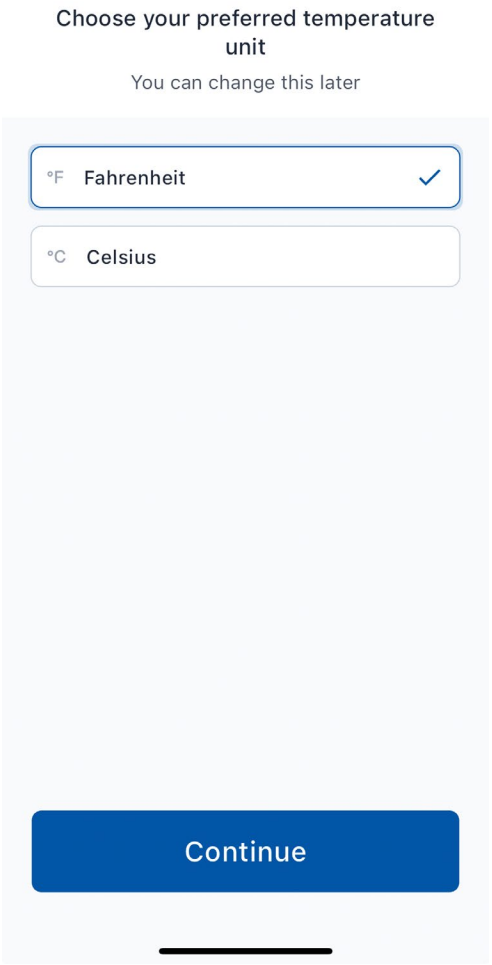




Step 1: Select your language.

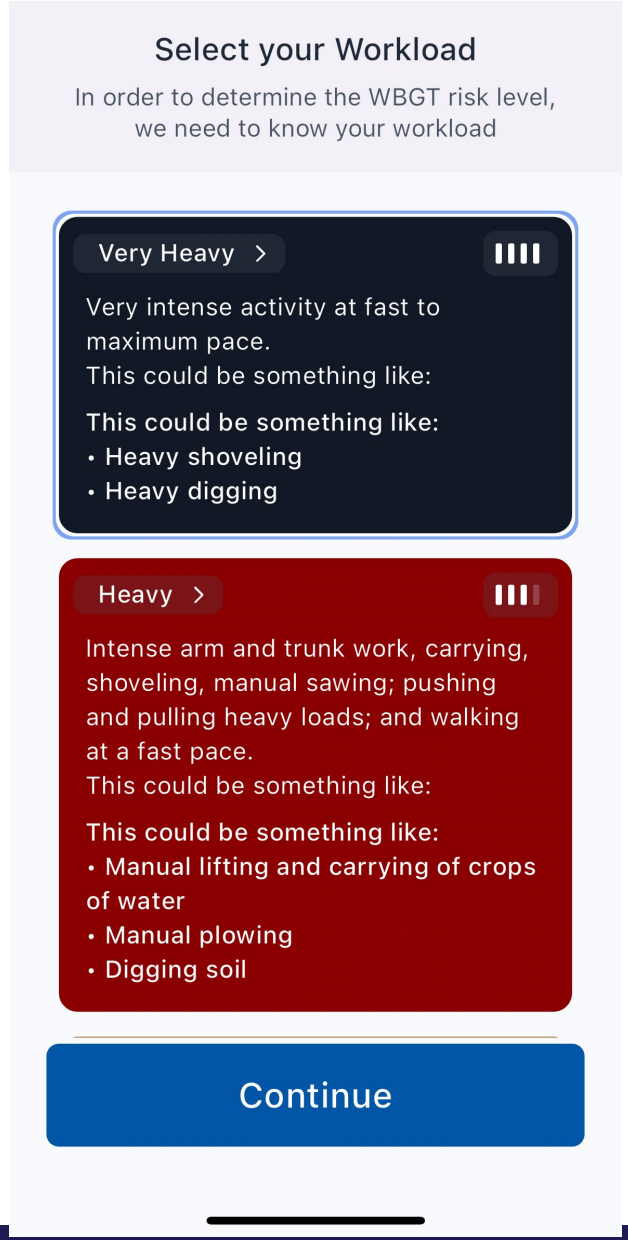


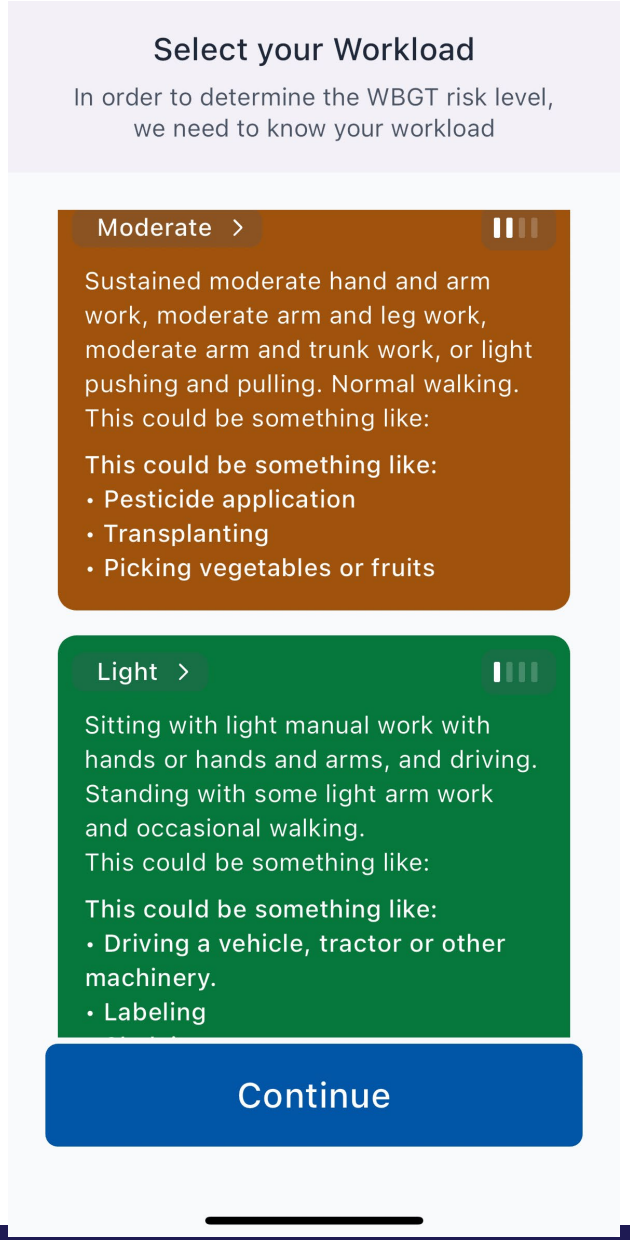
Step 2: Select temp unit.



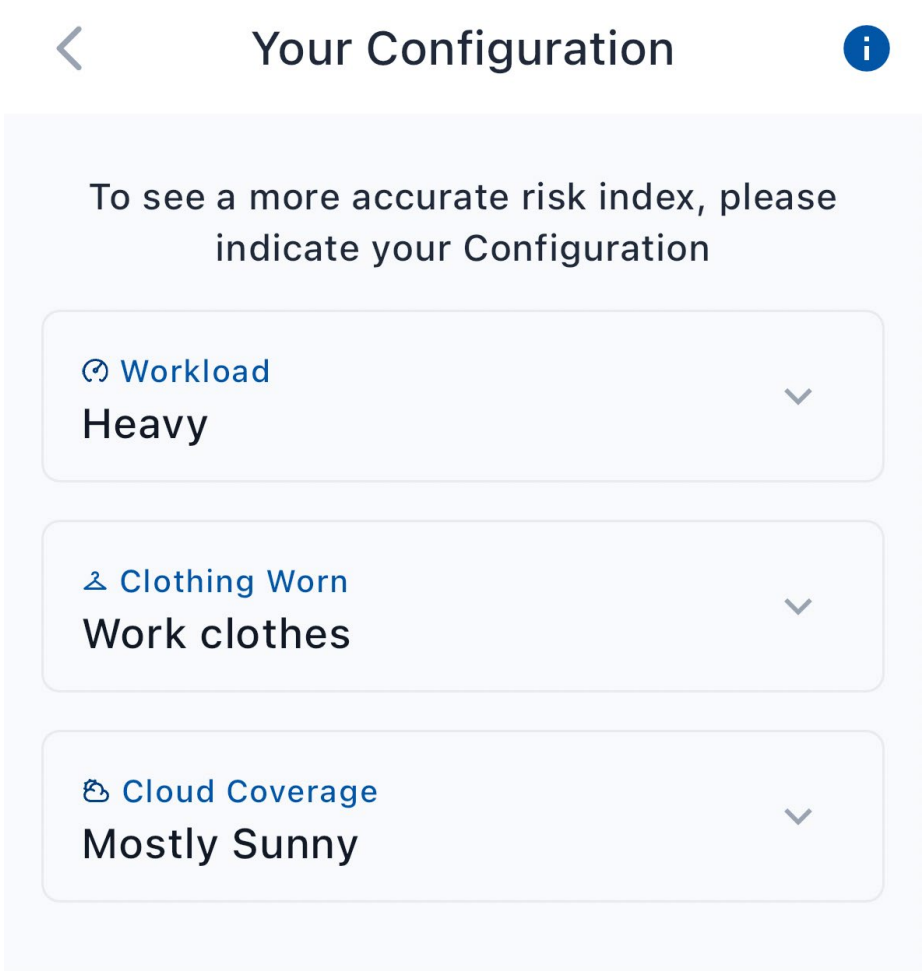
Workload Wizard

Step 3: Enter anticipated workload level.

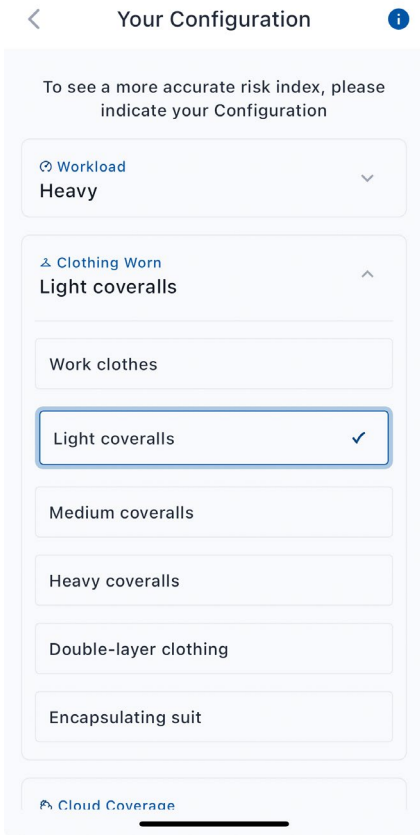


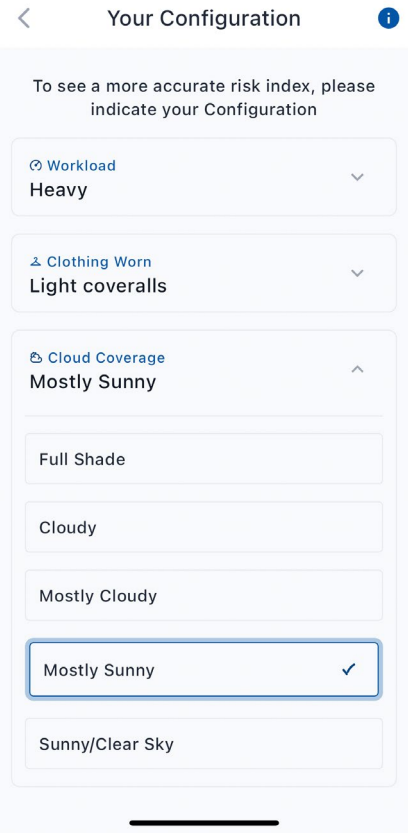


Step 4: Confirm/adjust workload level, type of clothing, and cloud coverage in your area

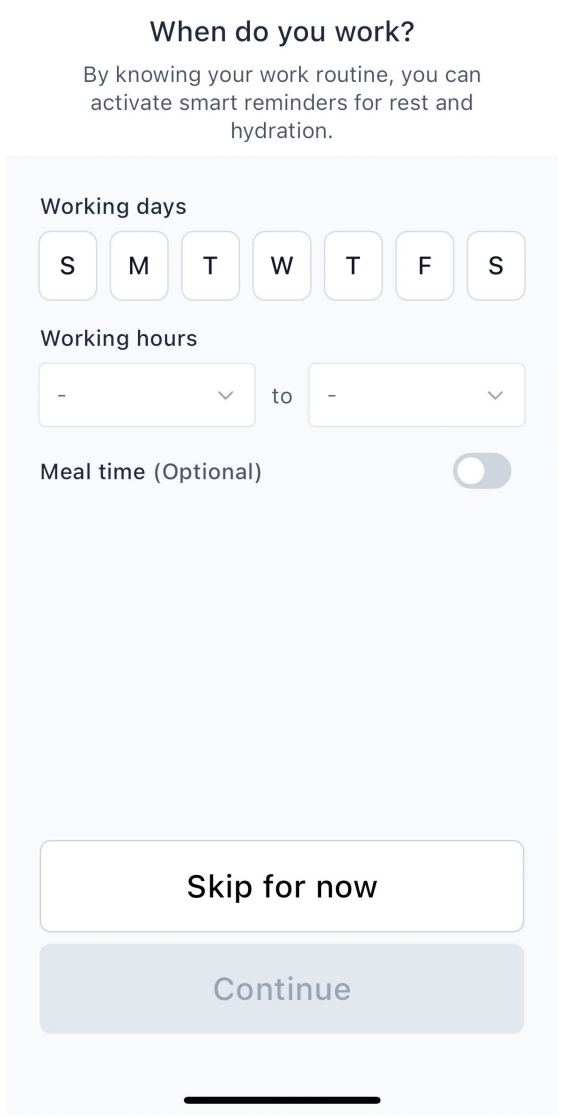


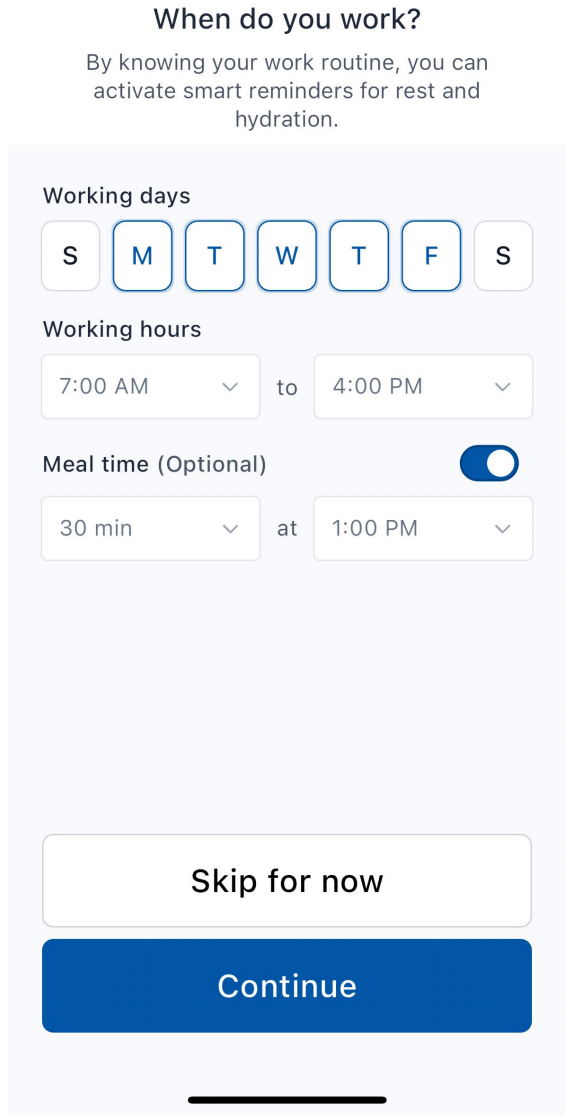
*Modify **Your Configuration** settings by clicking on “head” icon at top of any Locations page (refer to slide 14)



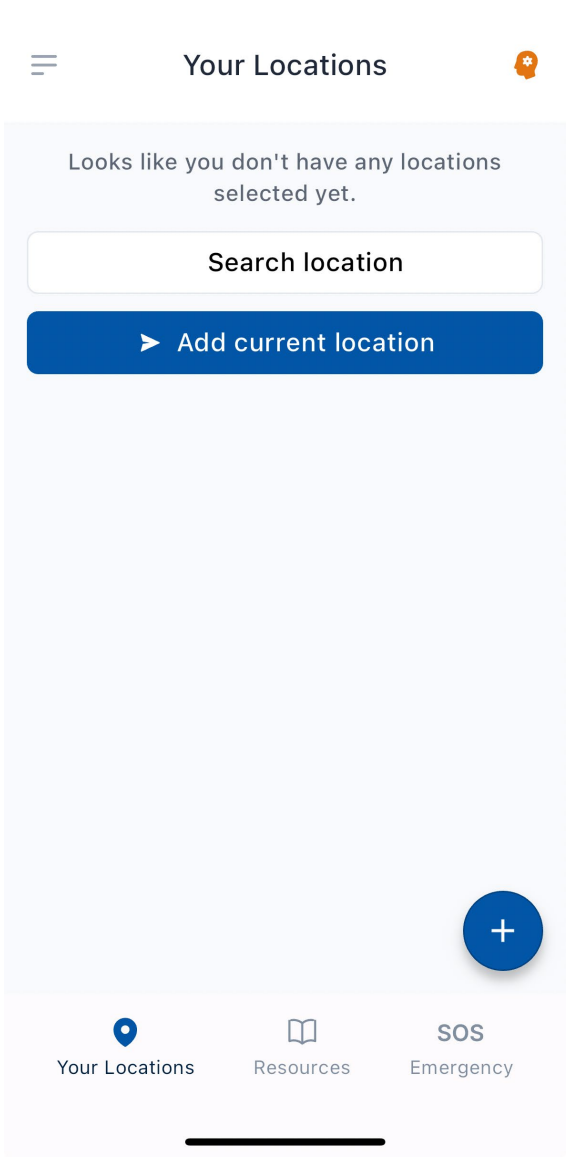


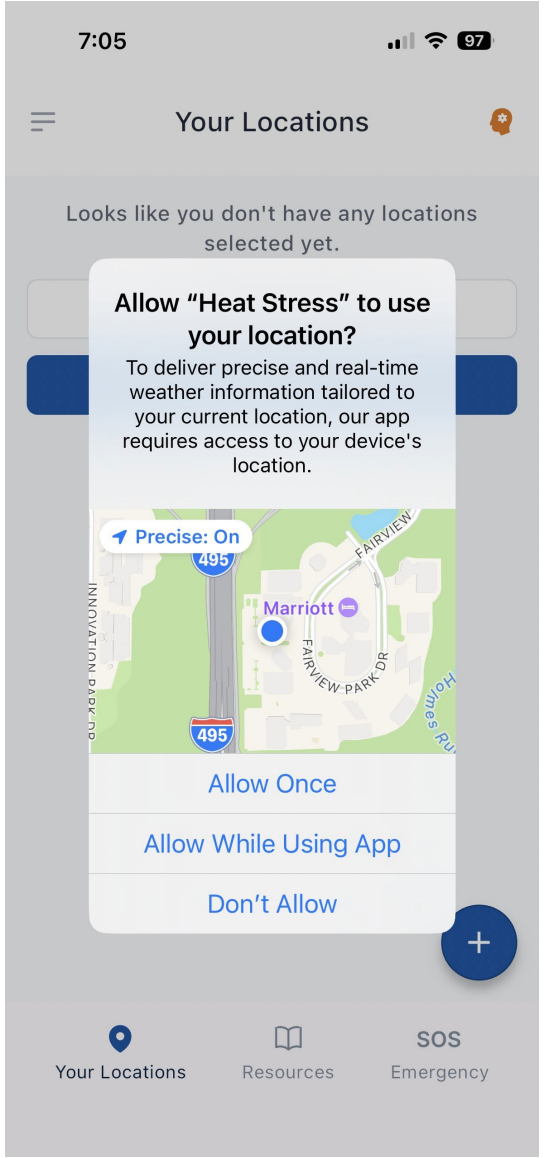
Step 5: Set your schedule (optional)



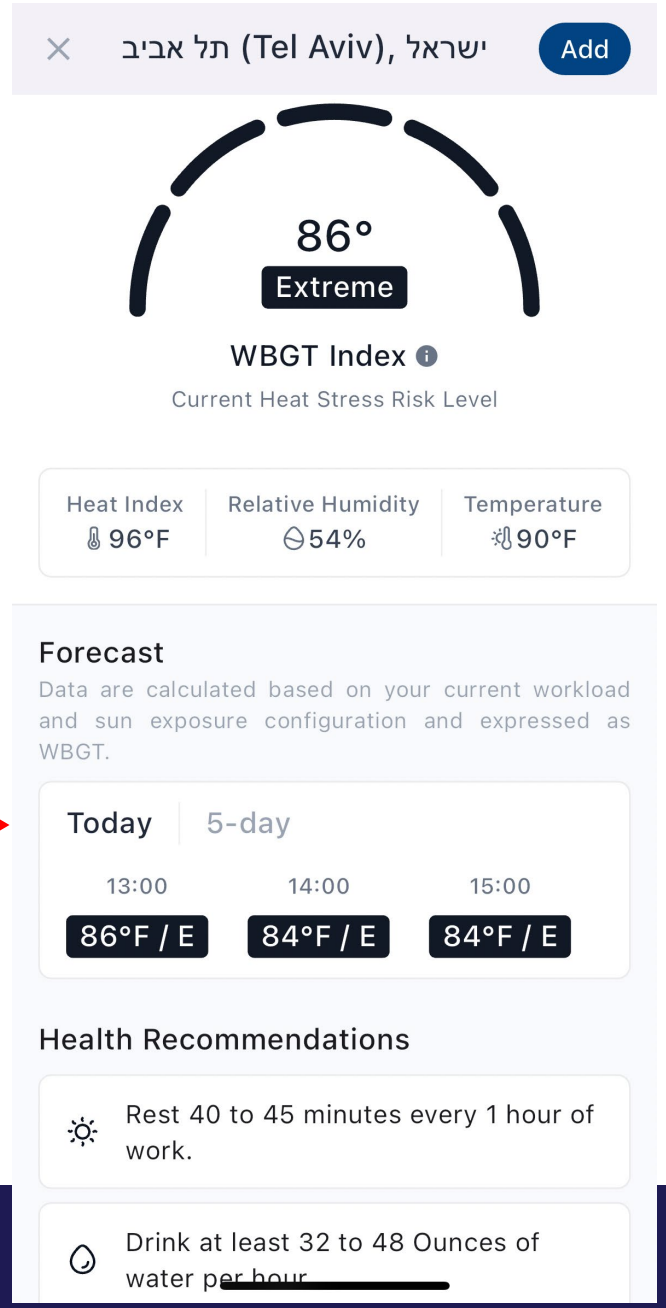


Step 6: Add your location

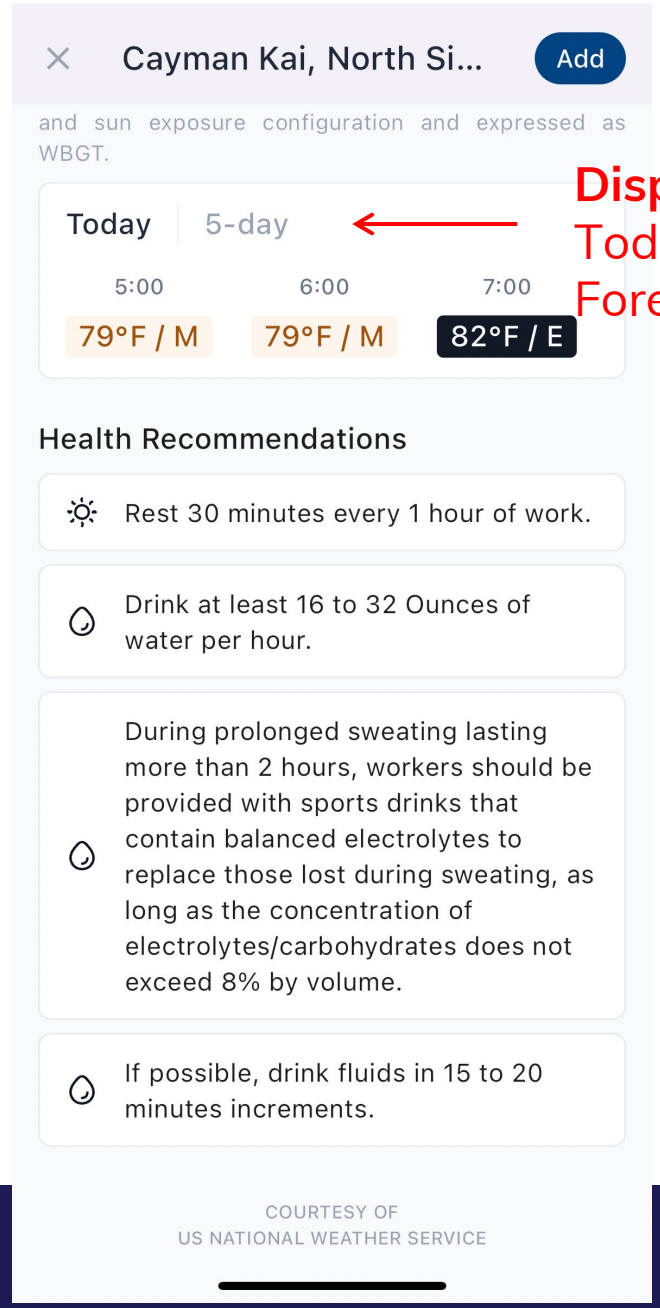




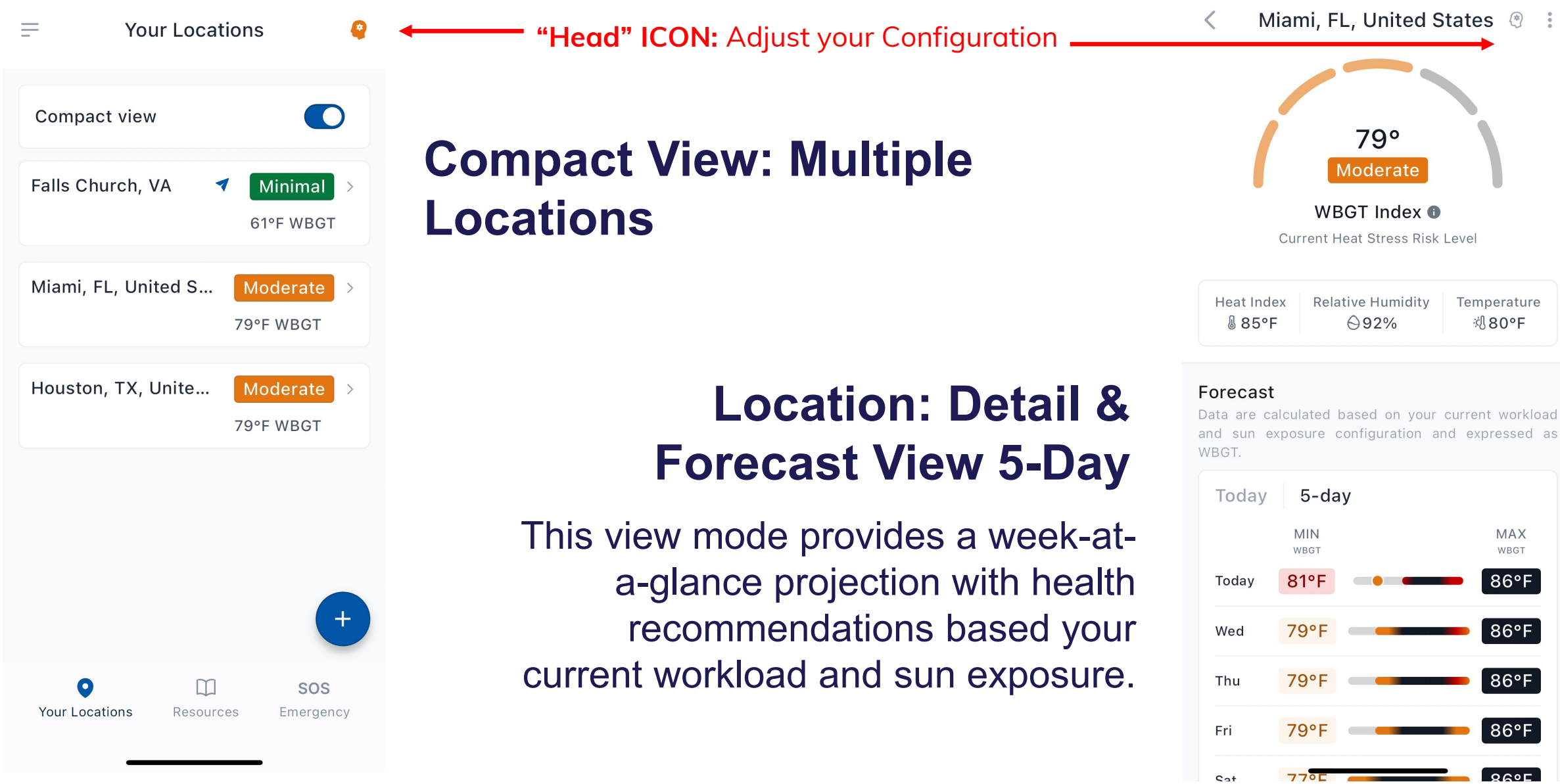
Once location(s) are entered, app calculates adjusted WBGT.



Display options: Today or 5-Day Forecast



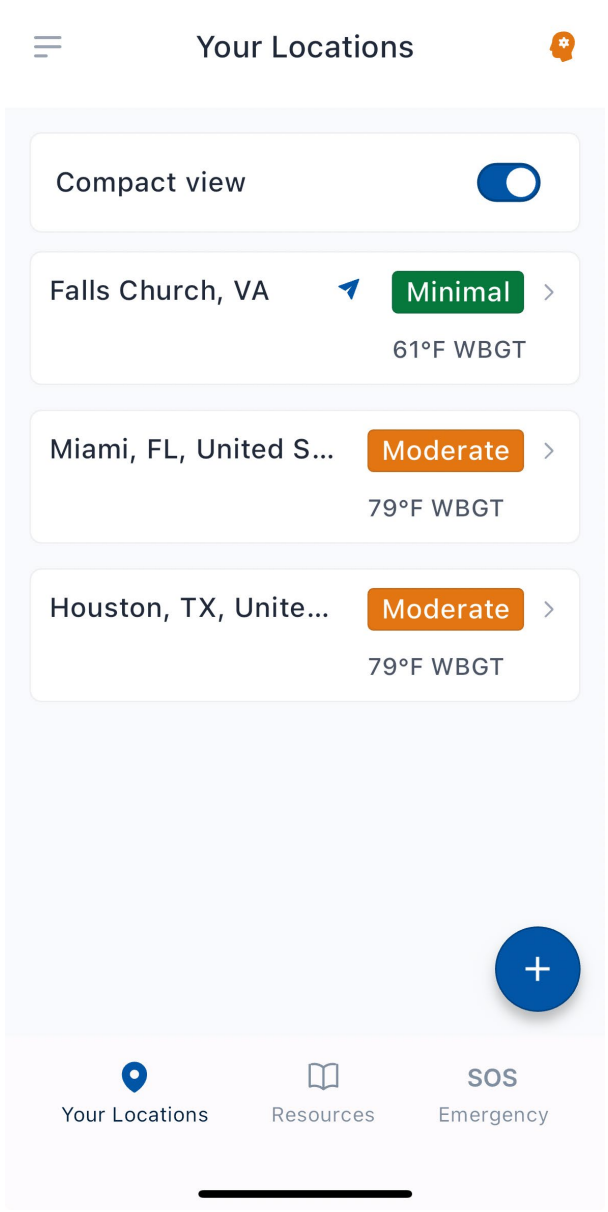
Display options: Today or 5-Day Forecast



Compact View: Multiple Locations

Location: Detail & Forecast View 5-Day

This view mode provides a week-at-a-glance projection with health recommendations based your current workload and sun exposure.

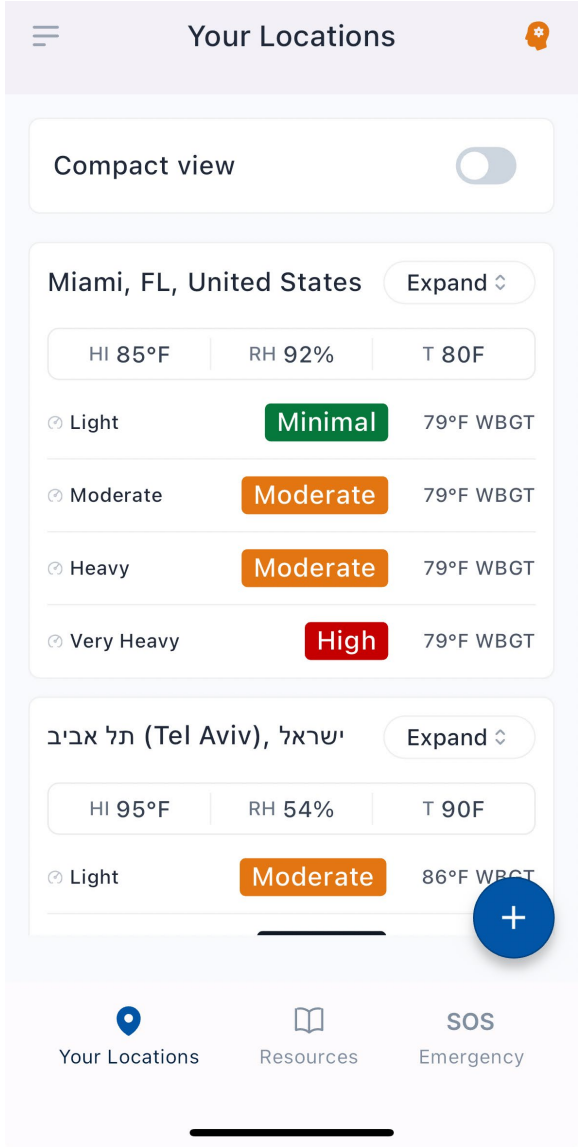


Location Monitoring: Compact View

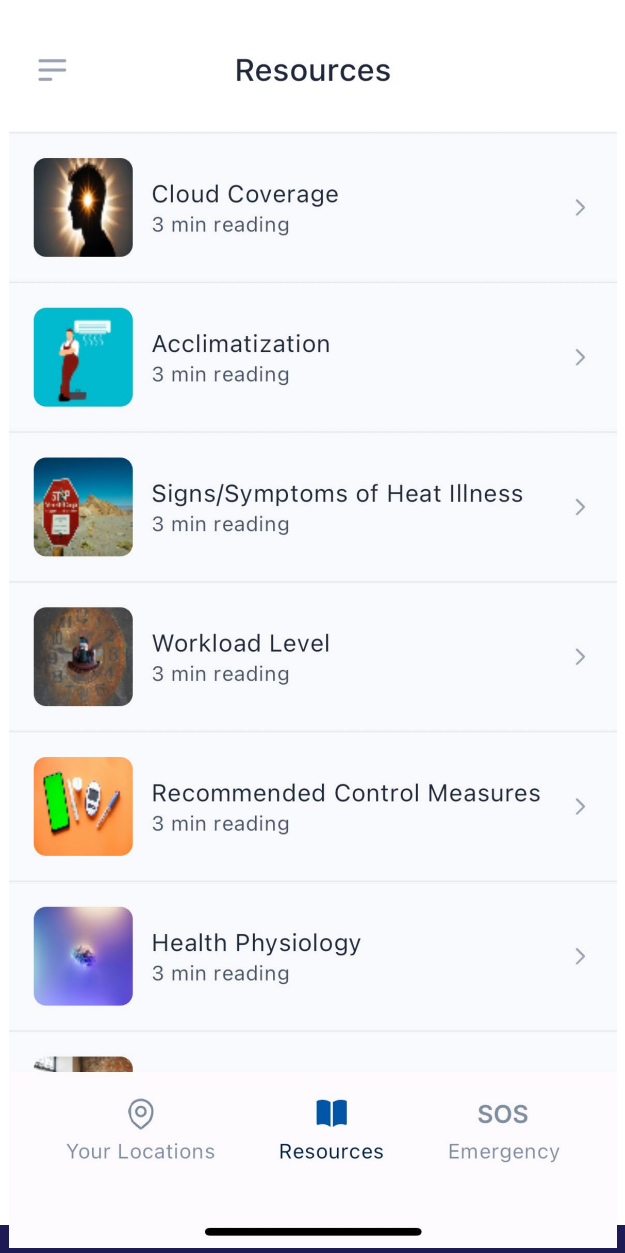
This view mode allows a supervisor to observe heat stress by workload intensity at current time.

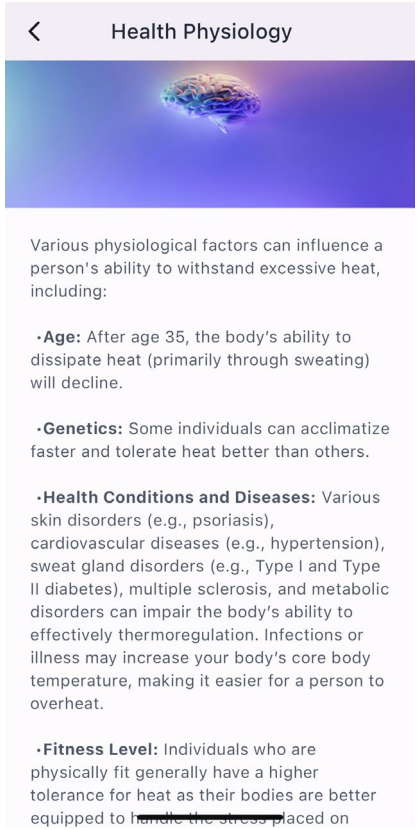
Location: Expanded View

This view mode allows a supervisor to look at a forecast under varying working conditions.



Additional Resources with Free Links





More Resources

Signs/Symptoms of Heat Illness

There are various levels of heat illness:

- **Heat Fatigue** - signs include impaired performance of tasks requiring physical and mental skills.
- **Heat Rash** - prickly heat in the form of red papules may occur, particularly in restrictive areas of the body where clothing or PPE contacts the skin heavily.
- **Heat Syncope (Fainting)** – signs and symptoms include fainting, light-headedness, dizziness, confusion, and pale skin.
- **Heat Cramps** - symptoms are painful muscle cramps and/or muscle spasms.
- **Heat Exhaustion** - signs and symptoms include dizziness, weakness, irritability, headache, nausea, thirst, and elevated body temperature (<104.5 deg F).
- **Heat Stroke** - signs and symptoms include hot, dry skin or profuse sweating,

Emergency

If you're facing an emergency, contact your local authorities.

1 Move to a Cooler Place

- Get the person out of the sun and into a shaded or air-conditioned area

2 Cool the Person

- Have them lie down and elevate their legs slightly.
- Apply cool, wet cloths or towels to the skin.
- Use fans or create a breeze with an open window.
- Remove or loosen tight clothing to help cool the body.
- Use ice packs or cool compresses on areas with a lot of blood vessels (wrists, ankles, groin, neck).

Your Locations | Resources | SOS Emergency

CALL TO ACTION: BETA TEST STAGE

- Beta testing available for **iOS devices** only. Android devices coming soon.
- Encourage employers and workers to test, test, test
- Feedback will be received by app developer and discussed with AIHA as to future improvements
- To access instructions, click here OR refer to the subsequent slides.

BETA TEST INSTRUCTIONS

What is an Open Beta?
A Beta launch is an early release of a product to a small group of users with the intended purpose of testing and providing Feedback relative to App functionality prior to a scaled application launch. In our case this is an OPEN Beta in the sense that the link and tool itself are not restricted to individual users, but whomever has access to the app link.

We recommend sharing this link and email with friends and family as well as contacts who might specifically fill the expected user criteria of an outdoor worker, or the supervisor of outdoor workers. Over the course of the Beta run, we will continue to make changes, layer in new functionality, and resolve errors that may be reported to our team. You can expect that we will continue to contact you through this channel whenever new functionality is deployed, or if there are any service outages you can expect due to our ongoing maintenance.

For example, we are currently in the process of QAing and finalizing push notification functions for our app and expect this functionality to be deployed in the next several weeks. When this happens, we will alert you of the change with some recommended test scenarios for you to run through.

Giving our Team Feedback
As stated above, the primary goal of the Beta Launch exercise is to gather feedback on the app experience through the lens of our expected users. This does **not** mean that if you do not fill one of our two expected user roles currently that your feedback is not useful, but that you should do your best to put yourself in these user's shoes as you think through the app experience to inform your feedback.

BETA TEST INSTRUCTIONS

NOTE THAT WE PREFER TO RECEIVE ALL FEEDBACK THROUGH THIS GOOGLE FORM. If you are an Apple user, you may see that there is a feedback function as part of TestFlight; however, considering that there is not a comparable function in Android, **we would prefer if all feedback came in through our Google Form to standardize our information funnel.**

What kind of Feedback are we looking for?

We are looking for your input in as a Beta Tester in four distinct categories:

1. **Generic Feedback**: This is the feedback we ask all of you to provide after using the app for the first time. We want to hear your initial impressions of the experience without prolonged use. We would greatly appreciate it if you could make a submission for Generic feedback within the first 24-72 hours of accessing the product; however, if there is something in the future you would like to alert us to that does not seem to fit the other categories, this is the place to do it.
2. **Defect Reporting:** Please report any defects in the app you experience when testing the application. These can be bugs, errors, or any other technical difficulties that make the app experience less enjoyable. Please note our KNOWN DEFECT section below for more information
3. **Enhancement Requests:** Any and all recommendations to enhance the existing app functions
4. **Feature Requests**: New functionality that you believe will add value to the intended users

We review feedback daily, and while we cannot guarantee that all feedback will be addressed or prioritized, we can guarantee that all of it will be reviewed.

BETA TEST INSTRUCTIONS

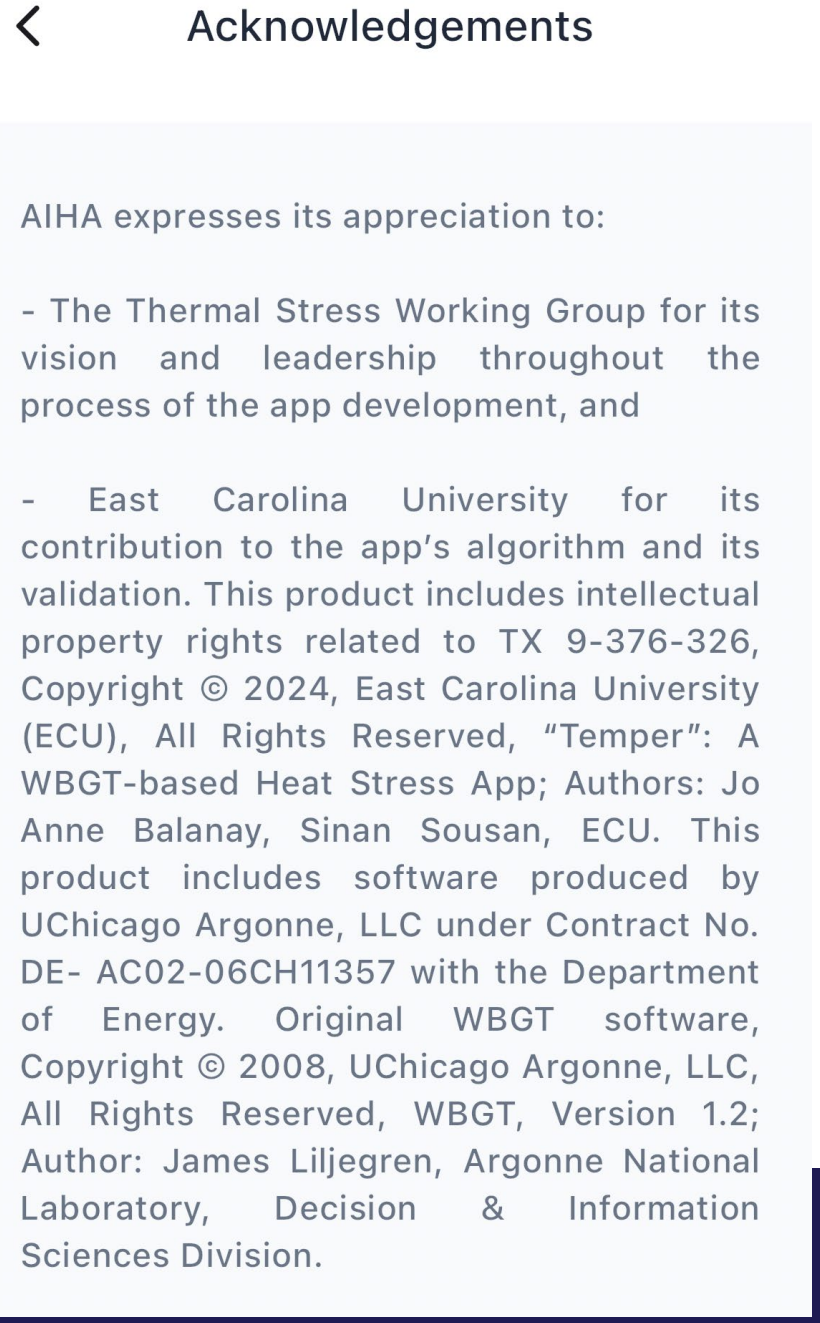
Known Defects in Our Current Application:
Typically, app developers launch Beta tests when core app functionality is complete, but while still rooting out defects that arise as a normal part of app development. That being said, we have a known deficiency at the start of our Beta test that is worth noting:

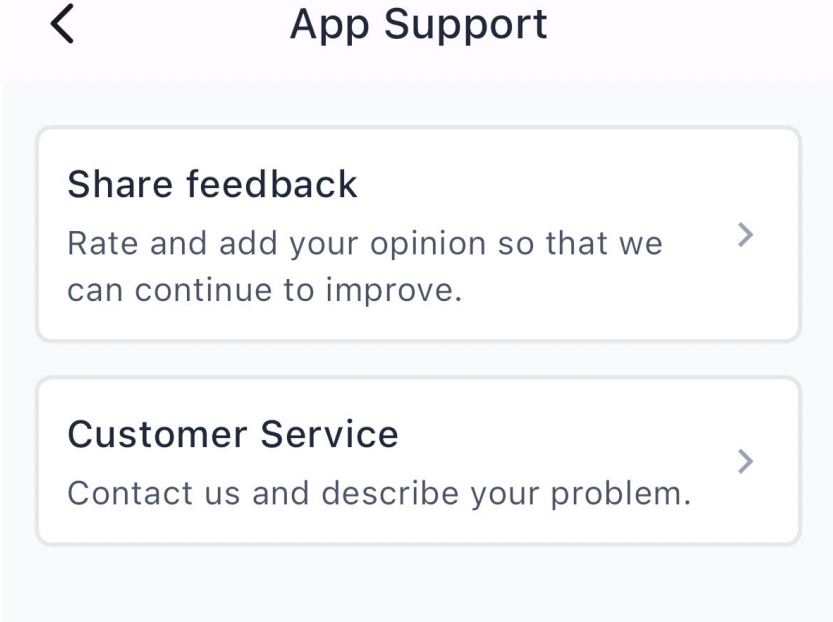
1. We are currently experiencing some issues with the Locations Service we are leveraging leading to an inability to search for specific cities in Asia and Africa. We would like to request that you please submit a defect in our feedback form if you run into any issues finding a particular location as this will help our conversations with this service provider.|

2. An error with TestFlight (explained in the **"How to Access the Application"** section below) that will require following the app link twice to download.

How to Access the Beta Application
As stated above, we are still awaiting Google Store App approval and we will share access to that product when it becomes available.

To access the Beta of the Heat Stress Application on **iPhone** please click here: iOS APP DOWNLOAD LINK





For more information, contact:
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