



Extreme Heat and the Workforce

Jane Gilbert
Chief Heat Officer

April 22, 2025

Extreme Heat

- ❖ Heat is the leading weather-related killer in the United States
- ❖ High heat and humidity can lead to heat-related illness and other negative health outcomes
- ❖ High risk groups experience a disproportionate amount of health impacts
- ❖ Most HRIs and deaths are preventable



Children

WHO:



Pregnant Women



Older adults



Outside workers



People with disabilities

WHERE:



Houses with little to no AC



Construction worksites



Cars

What is happening in Miami?

WHAT ABOUT MIAMI?

Heat Index
Above 90°F



Outdoor workers become more susceptible to heat-related illness.

Heat Index
Above 100°F



Children, elderly adults, pregnant women, and people with underlying conditions are at heightened risk of heat-related illness.

Heat Index
Above 105°F



Anyone could be at risk of heat-related illness or even death as a result of prolonged exposure.

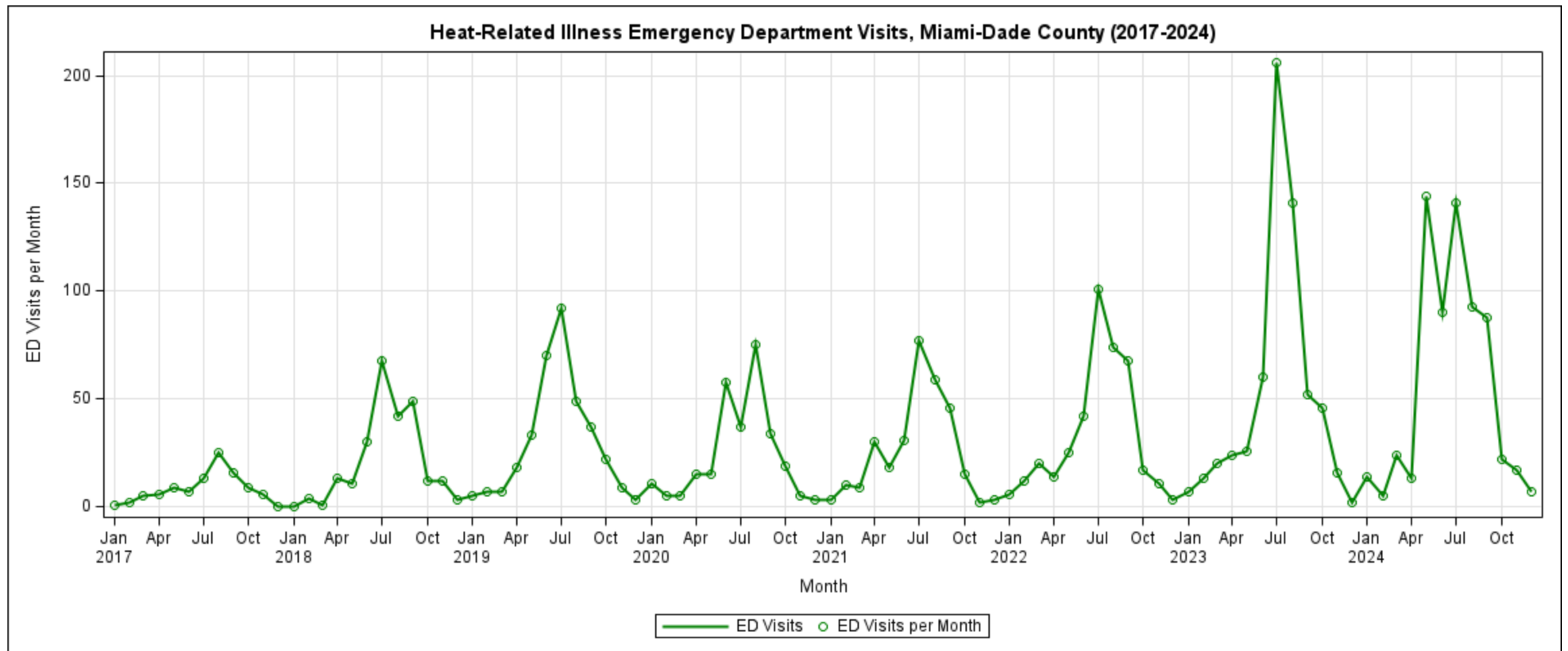
Heat Index
Off the Charts



Undetermined: any level of exposure is presumed extremely dangerous for all people and likely to result in heat-related illness or even death.

What is happening in Miami-Dade?

MIAMI-DADE COUNTY				
Heat Index above	Historical (1971-2000)	By midcentury (2036-2065)	By late century (2070-2099)	By late century, if we limit warming to 2°C (2070-2099)
90°F -----	154 days	187 days	200 days	183 days
100°F -----	41 days	134 days	166 days	115 days
105°F -----	7 days	88 days	138 days	60 days
Off the Charts	0 days	1 days	14 days	0 days



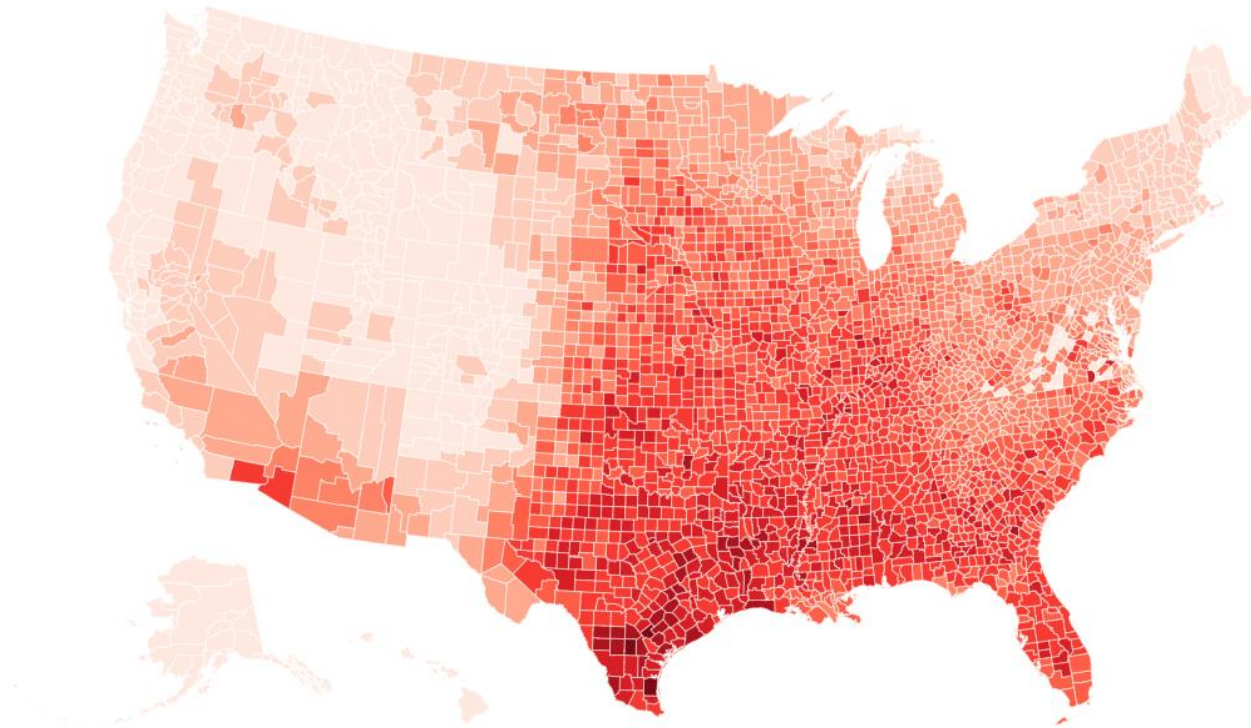
In 2023: We experienced 42 days with a heat index 105°F or more. Peak in weekly heat-related emergency department visits was 100% higher and double in total counts than past 5 years.

In 2024: We experienced 60 days with a heat index of 105°F or more. We also had the hottest May on record which led to high ED visit. Total counts slightly higher than 2023.

US Economic Analysis: Heat and Productivity Loss

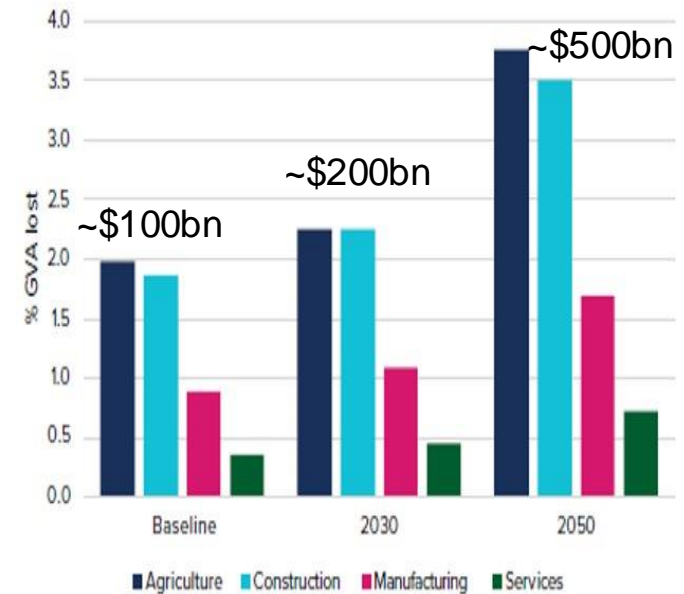
Modeled projected percent loss by 2050 in gross value added from reduced worker productivity due to human heat stress

0% 2% 4% 6% 8%



Source: Vivid Economics. Data on workability (share of productive working hours lost due to human heat stress) from Woodwell Climate Research Center (WCRC).

Based on historical climate data and 2020 economic data for baseline and projections for 2030 and 2050. See methodology document for more details.



Assuming working conditions and sectors of economic activity remain unchanged, percentage losses nearly double from heat stress

Extreme Heat Action Plan

Goal 1: Inform, Prepare and Protect People

Goal 2: Cool our Homes and Emergency Facilities

Goal 3: Cool our Neighborhoods



Why focus on workers

- We have over **300,000 outdoor workers in Miami-Dade** and, based on local and national studies they are the most likely to suffer from heat related illnesses and deaths than any other demographic segment
- Agricultural workers can be up to 35 times more likely to suffer from a heat related illness than others. Construction up to 11-14 times more likely.



Negative Impacts of Heat at Work

- In a survey of approximately 1214 workers, they were on average **35% less productive** on days they indicated experiencing heat stress.
- A case-crossover study in **outdoor construction workers** reported a **0.5% increase in the odds of traumatic injuries per 1°C increase in maximum daily heat index**
- Additional costs associated with sick leave (i.e., paying other employees to work overtime or replacing staff), healthcare costs, and injury compensation claims.
- **In Miami Metro Area, high heat combines with humidity to reduce labor productivity, leading to losses of over \$10 billion under current conditions**—more than Miami-Dade County's annual budget. By 2050, without action to reduce emissions or adapt to increased heat, losses could double to more than USD 20 billion. <https://onebillionresilient.org/hot-cities-chilled-economies-miami/>

Positive Impacts of Heat Stress Prevention Strategies

- Workers picked 63% more crop when provided a heat stress prevention strategy (use of mechanical cart) compared to the “business as usual”.
- Studies estimated that when workers were performing work under the shade, there were 6- and 10-fold (respectively) increases in productivity.
- Morabito et al. (2020) reported that moving a working shift 2 h earlier to avoid heat stress reduced costs by 33%.
- McCarthy et al. reported that after implementing a heat safety plan, median cost incurred per heat-related illness reduced to \$208 compared to \$416 in the prior 2 years.



How to Protect Workers from Heat

- Assess:
 - Impact of clothing
 - Length of time working in uncooled environment
 - Level of exertion
- Implement heat safety trainings for both staff and managers
- Allow for acclimatization
- Protocols should define access to cool potable water, electrolytes and shaded or cool rest breaks. Rest break time should increase under higher heat conditions
- Emergency response protocols



Extreme Heat Small Business Support Grant

Grant Amount: \$250–\$1,000 in prepaid gift cards to purchase eligible items.

Grant funds can be used for practical items like water coolers, pop-up shade tents, cooling gear, and other tools that help keep teams safe, healthy, and productive.

Application Deadline: May 9th

To find out eligibility and application details, check out the caption!

Link to apply:

[The Miami Foundation
Application Manager](#)

Additional Resources

- Heat Safety for Workers - www.miamidade.gov/heat
- Information and tools for developing and implementing a heat safety plan and protocols, visit [Heat Illness Prevention Campaign - Employer Responsibilities Occupational Safety and Health Administration](#).
- Heat safety trainings:
 - [OSHA Heat Safety Training Guide](#)
 - [Online: OSHA Heat Stress Training](#)





Thank you!

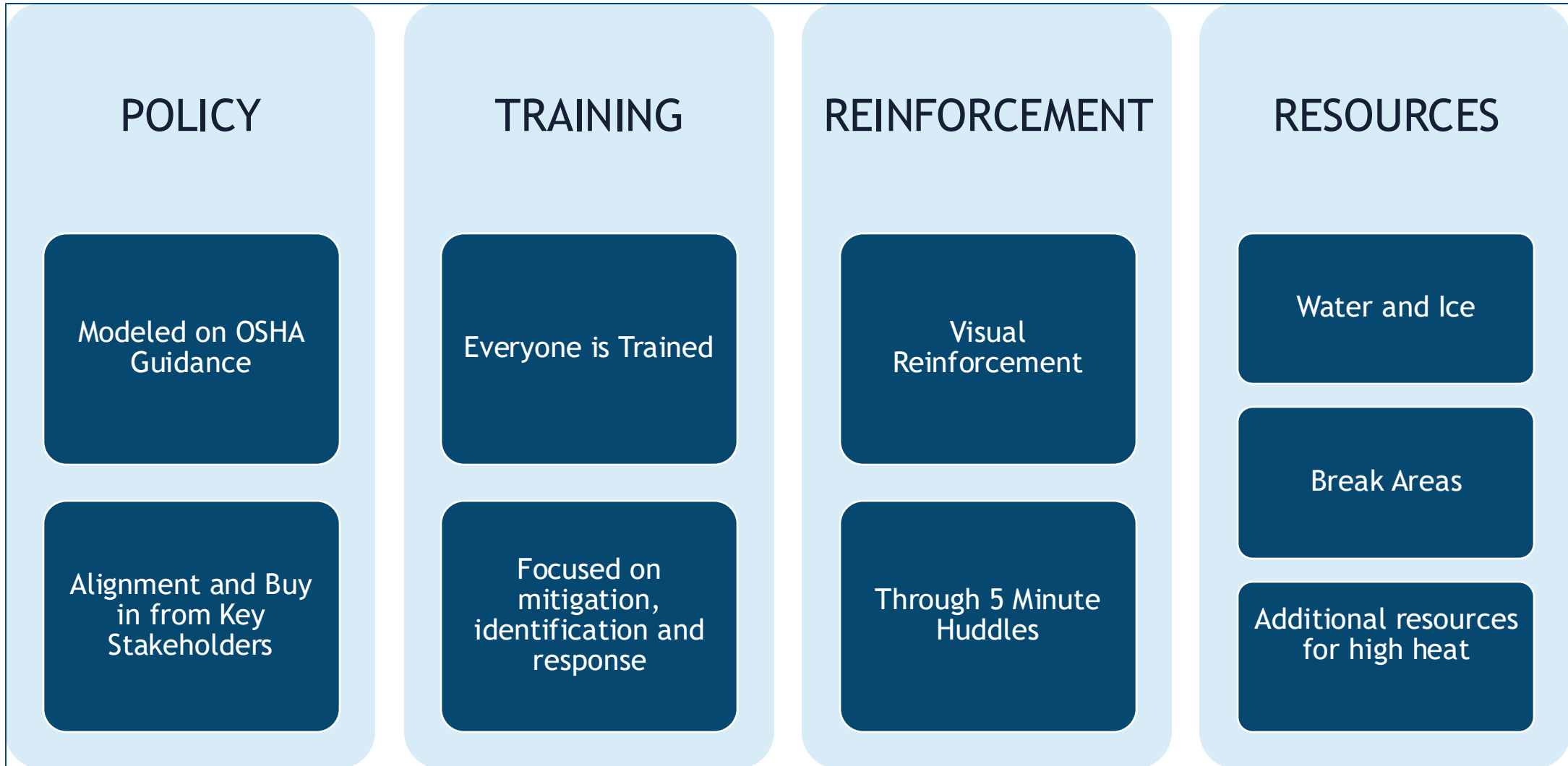
Jane Gilbert
Chief Heat Officer
Miami-Dade County

Jane.Gilbert@miamidade.gov
www.miamidade.gov/heat



BEAT THE HEAT AT COSTA FARMS

FOUNDATION OF OUR HEAT SAFETY PROGRAM



POLICY

Our **Heat Illness Prevention Policy** (HIPP) focuses on 4 key areas of heat-illness prevention.

1. **Training team members and supervisors** on heat-illness prevention strategies and recognizing and reporting signs and symptoms of heat-related illnesses.
2. **Monitoring weather and workplace conditions and assessing heat hazards** on a daily basis.
3. **Implementing heat-illness prevention strategies** to reduce heat stress.
4. **Planning for heat-related medical emergencies** and ensuring affected team members receive prompt medical attention.



Heat-Illness Prevention Plan


I. INTRODUCTION

The following Heat-illness Prevention Plan ("HIPP") was prepared using guidelines provided by the Occupational Safety and Health Administration ("OSHA") and the National Institute for Occupational Safety and Health ("NIOSH"). This heat-illness prevention plan is provided as a resource and not designed to address all work site scenarios and heat stress hazards. It is designed to help Costa Farms (the "Company") reduce the development of heat-related illnesses in team members across all of its Operational Units and worksites.

TRAINING

Training on heat safety focuses on identification, mitigation and emergency response.

1. **Training** is provided to everyone tailored to role, skill level and language.
2. **Being able to identify and mitigate signs and symptoms of heat illness is critical.**
3. **Training on First Aid and on how to handle heat-related emergencies allows for better response.**
4. **Heat Campaign** begins in early May.

HEAT ILLNESS Enfermedad por Calor		costa FARMS	
PREVENTION PREVENCIÓN	SYMPTOMS SÍNTOMAS	FIRST-AID PRIMEROS AUXILIOS	
 Hydrate Hidratate	 Weakness Dizziness Debilidad y mareos	 Move to Shade Vaya a un area con sombra	
 Take Breaks Toma descansos	 Excessive Thirst Sed excesiva	 Lay Down Apply Ice Acuestate y aplica hielo	
 Use Hats and Caps Usa gorras/ sombreros	 Cramps Headache Colicos y dolor de cabeza	 Remove Excess Clothing Remueva exceso de ropa	
 Wear Light Colors Vistete con colores claros	 Nausea Vomiting Nauseas y vomitos	 Use a Fan Utiliza un ventilador	
 Use Sunblock Usa protector solar	 Excessive Sweating Sudor excesivo	 Drink Water Toma agua	



**costa
FARMS**

¿Deshidratado? Revise el color de su orina.

			
Bien hidratado Mantenga su hidratación.	Hidratado Beba un poco más agua para mantenerse hidratado.	Deshidratado Beba agua hasta que esté bien hidratado.	Severamente deshidratado ¡Beba agua inmediatamente!

REINFORCEMENT

Reinforcement of policy and training must be constant, especially during heat months.

1. **Beat the Heat Campaign** – we make it impossible for anyone to miss!
2. **Posters** are placed in high visibility locations.
3. **Information is easy to take in.** We use multiple languages and easy to interpret pictures.
4. **290+ daily 5 Minute Huddles** allow us to reach every team member with updates and additional training.



REST UNDER SHADE AND HYDRATE!

5 TIPS TO BEAT THE HEAT

1. STAY HYDRATED



2. STAY COOL



3. DRESS FOR THE HEAT



4. KNOW THE SIGNS OF HEAT-RELATED ILLNESS



5. GET HELP



DESCANSA BAJO LA SOMBRA E HIDRÁTATE!

5 CONSEJOS PARA COMBATIR EL CALOR

1. MANTENTE HIDRATADO

2. MANTENTE FRESCO

3. VÍSTETE PARA EL CALOR

4. CONOCE LOS SIGNOS DE LAS ENFERMEDADES RELACIONADAS CON EL CALOR

5. BUSCA AYUDA

COSTA
FARMS
















BEAT THE HEAT!
COMBATE EL CALOR!



RESOURCES

Having the right Resources available is critical.

1. A **Safety Team** spearheads our efforts. They are trained and accessible.
2. An **HR Team** reinforces policies and takes action when gaps are identified.
3. **Water is always available.** Cooling cloths, hats, Gatorade, popsicles and of course, ice are also always available.
4. Adequate **break areas** are investments that pay off.

HEAT ILLNESS		costa FARMS
Enfermedad por Calor		
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 Wear Light Colors Vistete con colores claros	 Nausea Vomiting Nauseas y vomitos	 Use a Fan Utiliza un ventilador
 Use Sunblock Usa protector solar	 Excessive Sweating Sudor excesivo	 Drink Water Toma agua

EVOLUTION

1. **Formalization** of practices into a policy
2. **Standardization** across all farms to ensure consistency
3. **Ensuring Accountability** for our leaders
4. **Socialization** of policies through intentional campaign
5. **Addition** of people resources
6. **Implementation** of technology

The graphic features a thermometer icon on the left and a sun icon on the right. Below the title, there are three QR codes, each with a label above and below it. The first QR code is labeled 'Dehydration Urine' above and 'Deshidratación Orina' below. The second QR code is labeled 'Heat Brochure' above and 'Folleto de Calor' below. The third QR code is labeled 'Heat Symptoms' above and 'Síntomas de Calor' below. At the bottom, there is a small illustration of a person holding a water bottle on the left, a brochure icon in the center, and a person holding a thermometer on the right. The Costa Farms logo is at the bottom center.

Heat Information Informacion de Calor

Dehydration Urine
Deshidratación Orina

Heat Brochure
Folleto de Calor

Heat Symptoms
Síntomas de Calor

costa
FARMS

THANK YOU!



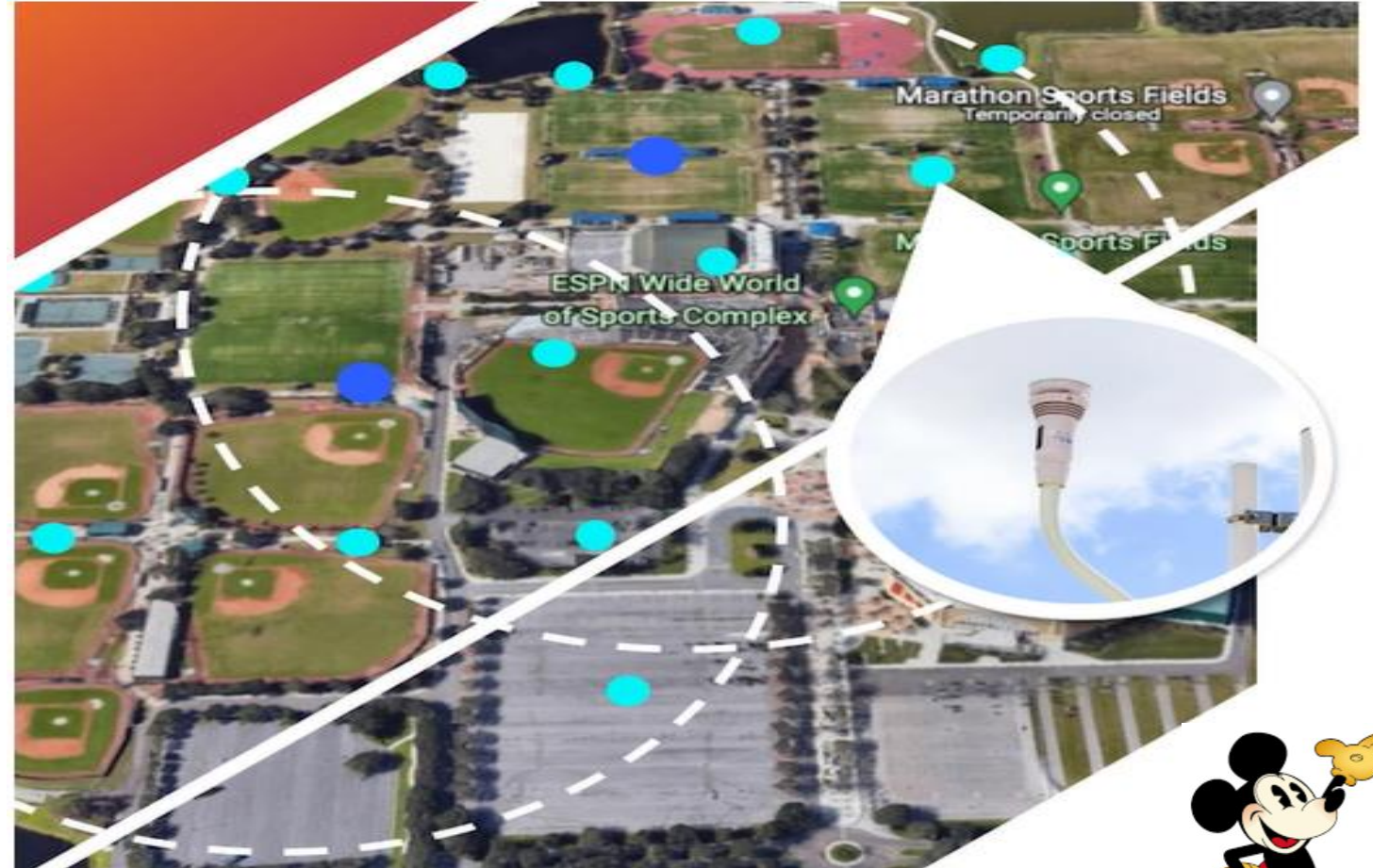
COSTA HEAT SHIELD

WHY HEAT STRESS IS IMPORTANT TO US



- Ensuring our most valued resource is safe and healthy is paramount to us.
- Heat/Humidity is one of our product's key inputs.
- Dig deeper! What's next.

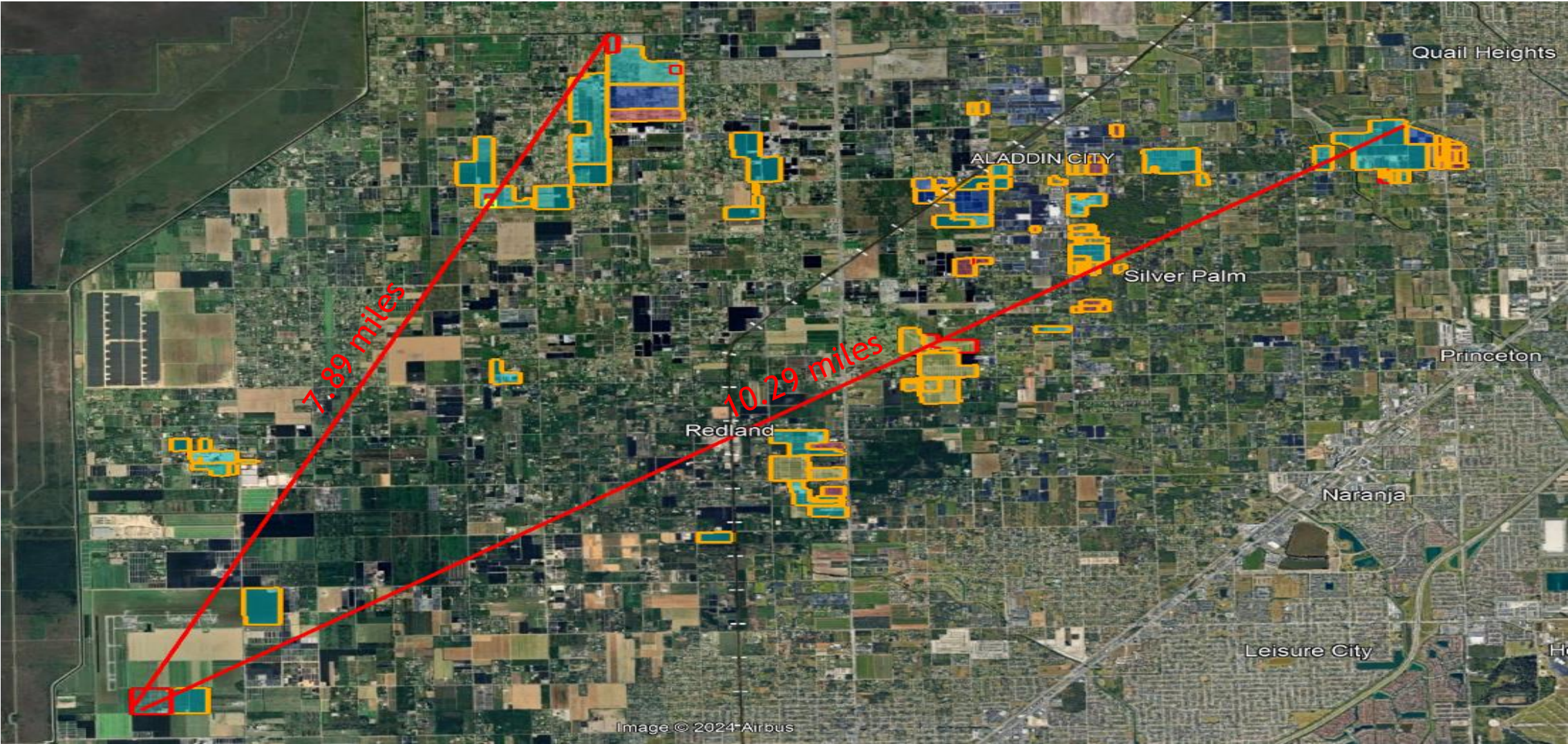
SAFETY INITIATIVE - COSTA HEAT SHIELD



COLLABORATION AND BEST PRACTICE SHARING WITH DISNEY!



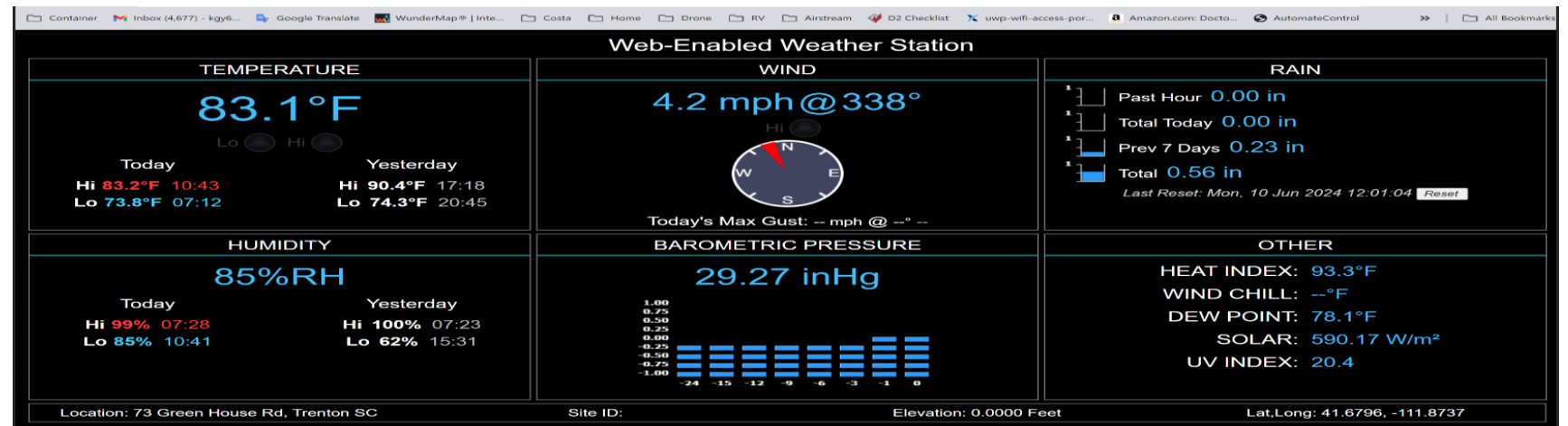
COSTA HEAT SHIELD



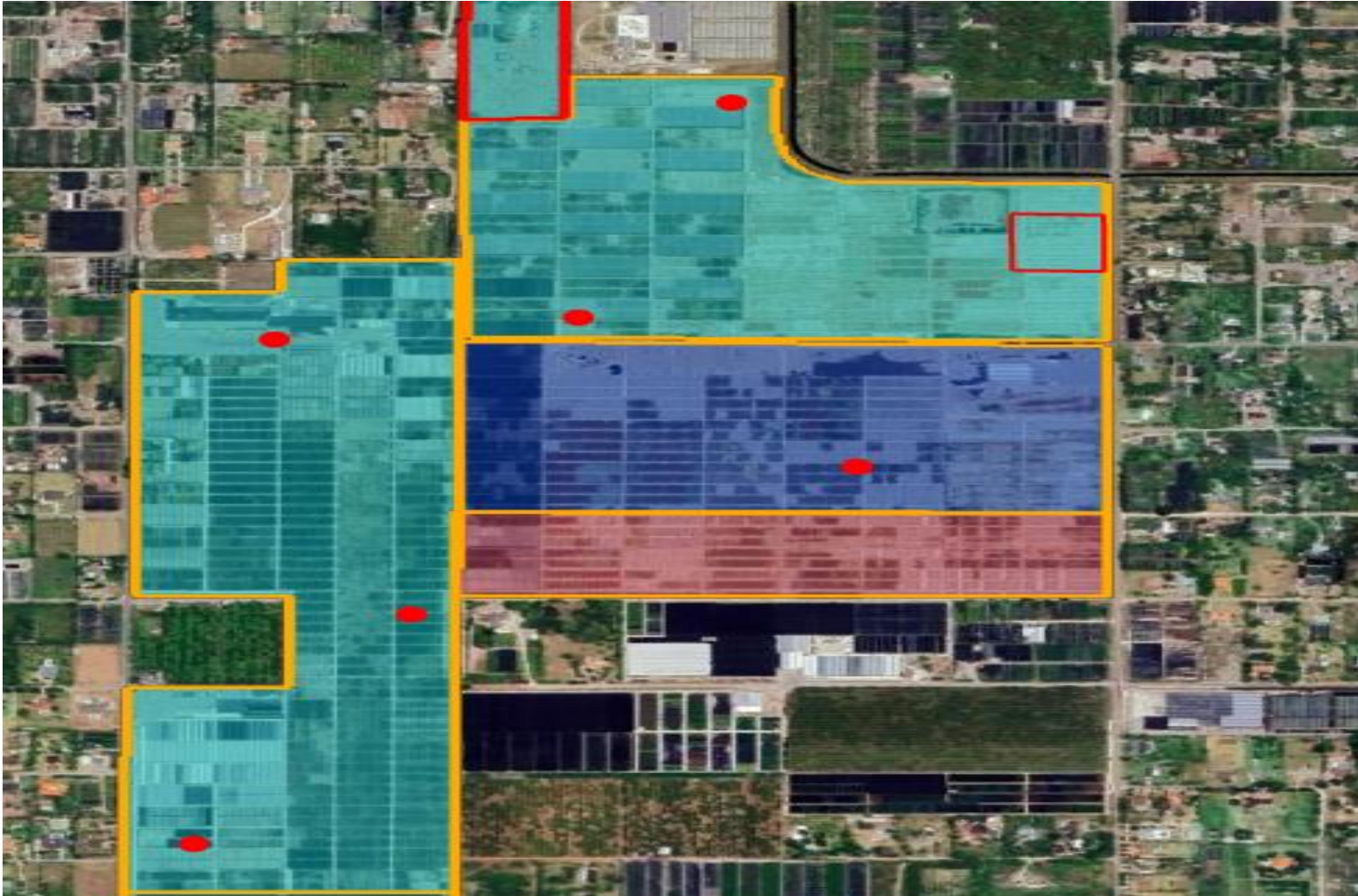
WHERE WE ARE GOING



- One of our biggest variables to solve for was our different work environments i.e. shade, full sun and greenhouses.
- We finally settled on using WBGT as our main input for alerts.
- We felt like it was a better measurement for all of our variables.
- We use open-source information, specific to the area, combined with our sensors to calculate the WBGT.
- We ran comparison trial with our calculated versus real measurements and at all times we were within 1% accuracy.
- Costa Heat Shield was born.

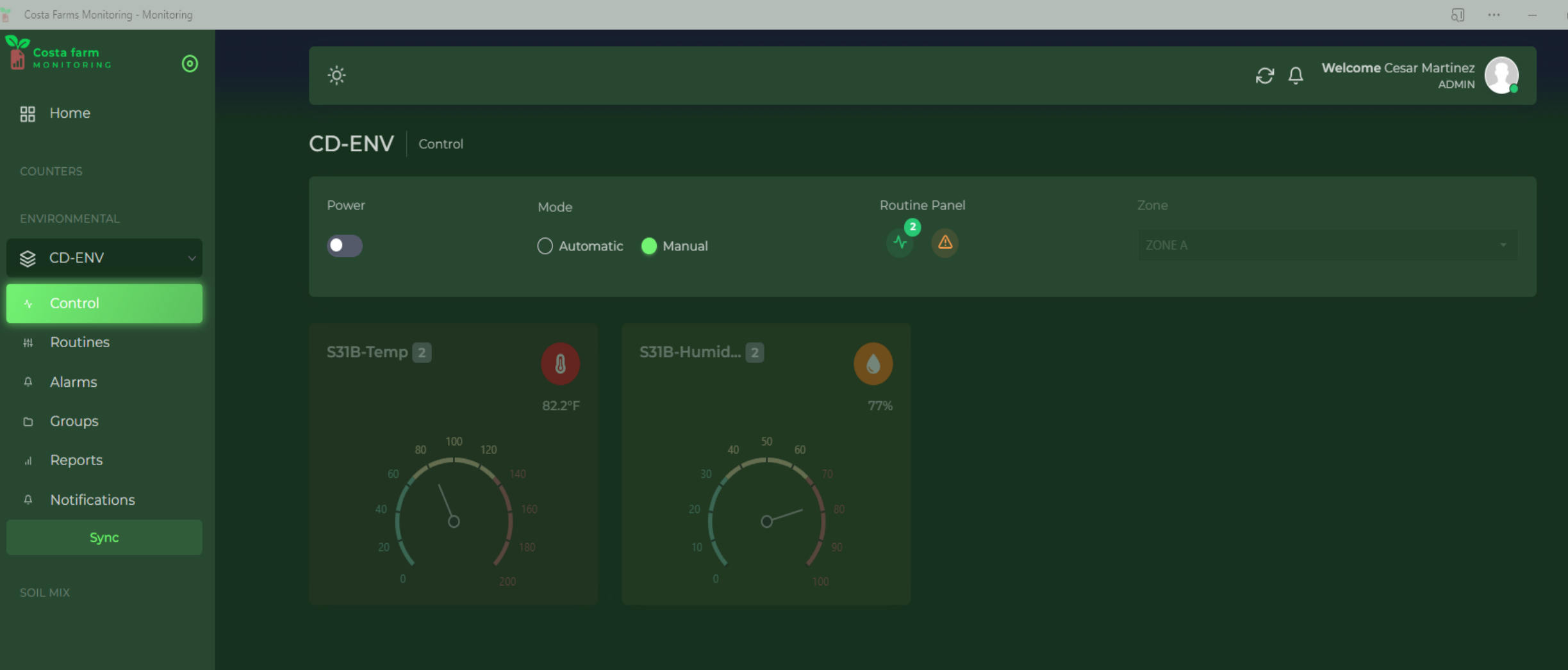


COSTA HEAT SHIELD - EXAMPLE







- Utilizing WBGT versus Heat Index
- WBGT uses multiple weather data points i.e. wind, solar radiation, cloud cover, etc.
- Micro-climate alerting
- Alert system based upon specific areas for easier decision points
- This meets the intent of the proposed OSHA rule.

COSTA HEAT SHIELD




COSTA HEAT SHIELD

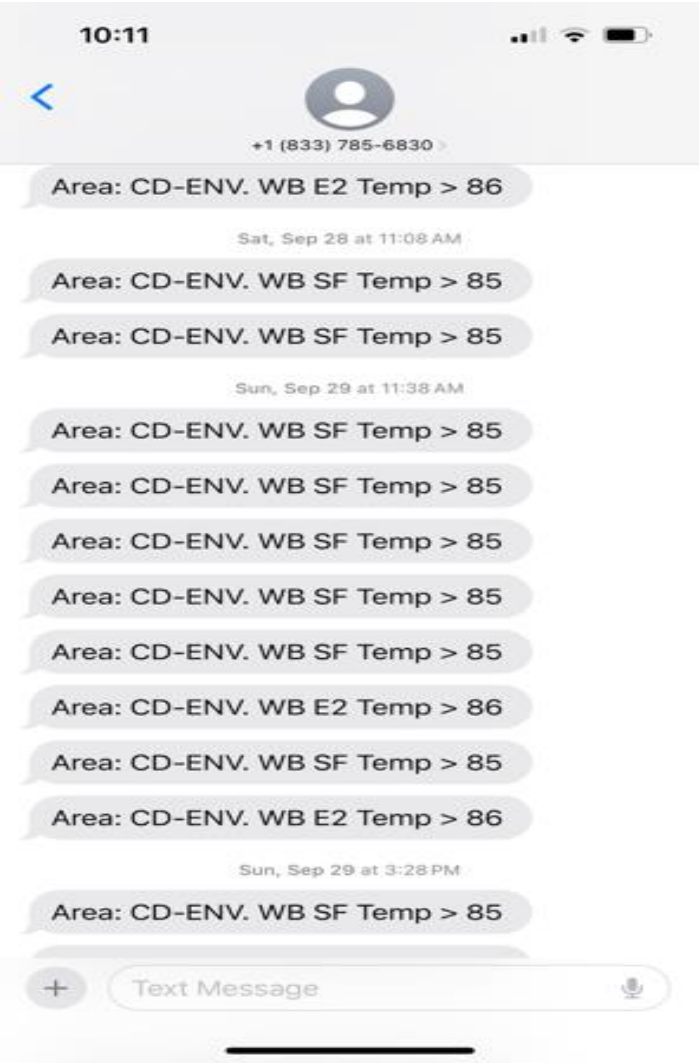
CD-ENV Routines		
	Actions	Description
⋮	 	Alert WB SF > 85 IF between 7:00 AM and 6:00 PM AND CD_SF_C_810d_wb is above 85 Fahrenheit SEND WB SF Temp > 85
⋮	 	Alert WB E2 > 86 IF Every days between 7:00 AM and 6:00 PM AND CD_E2_S31B_wb is above 87 Fahrenheit SEND WB E2 Temp > 86

Alert WB SF > 85 activated



Darien Jerez Sanchez
To  Cesar Martinez Jr.

Area: CD-ENV. WB SF Temp > 85





FLORIDA CHAMBER LEADERSHIP CABINET

on Safety, Health and Sustainability



**FLORIDA CHAMBER
SAFETY COUNCIL**

**FLORIDA CHAMBER
HEALTH COUNCIL**

**FLORIDA CHAMBER
SUSTAINABILITY COUNCIL**

April 22nd , 2025

Key Strategies for Heat Safety: Safeguarding Our Workers



FLORIDA CHAMBER LEADERSHIP CABINET

on Safety, Health and Sustainability



WELCOME, MEETING OVERVIEW
AND INTRODUCTIONS

Katie Yeutter
President, Florida Chamber
Leadership Cabinet



Agenda

- **Welcome, Meeting Overview and Introductions** – Katie Yeutter, President of the Florida Chamber Leadership Cabinet on Safety, Health and Sustainability
- **OSHA Releases First-Ever Heat Safety Rule**
- **What Will the Proposed Rules Require**
- **Our Florida Chamber Heat Council Journey**
- **Our Approach to Securing Industry-Leading Technology and Tools**
- **Resources & Technology**

OSHA Releases First-Ever National Heat Safety Rule

Disclaimer: This proposed rule has been submitted to the office of the Federal Register (OFR) for publication and is currently pending placement on public inspection at the OFR and publication in the Federal Register. This draft version of the proposed rule may vary slightly from the published document if minor technical or formatting changes are made during the OFR review process. Only the version published in the Federal Register is the official proposed rule.

Amendments to Standards

For the reasons set forth in the preamble, OSHA amends parts 1910, 1915, 1917, 1918, and 1926 of title 29 of the code of federal regulations as follows:

PART 1910 — OCCUPATIONAL SAFETY AND HEALTH STANDARDS

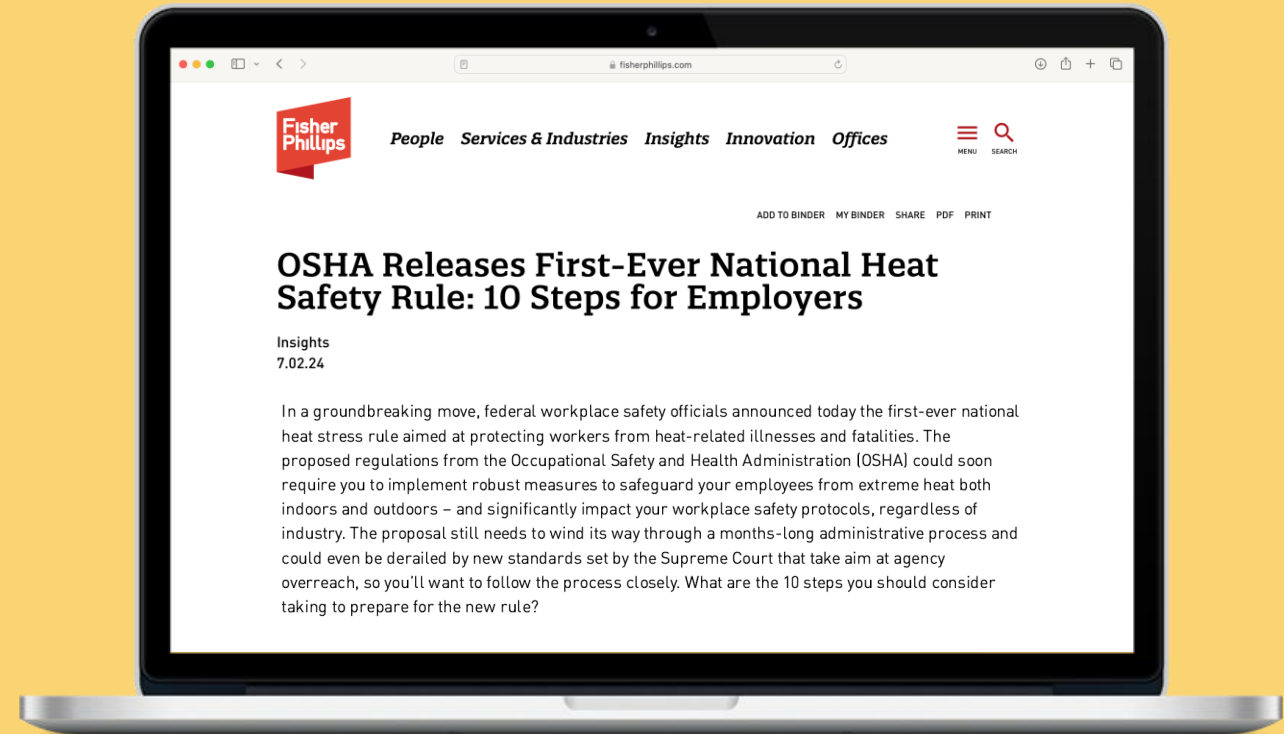
Part 1910 of title 29 of the code of Federal Regulations is hereby Amended as follows:

Subpart J — General Environmental Controls

§1910.148 Heat Injury and Illness Prevention

Part 1910 of title 29 of the code of Federal Regulations is hereby Amended as follows:

- (a) Scope and application
- (1) Except as otherwise provided in this paragraph, this standard applies to all employers.
- (2) This standard does not apply to the following:
 - (i) Work activities for which there is no reasonable expectation of exposure at or above the initial heat trigger.



What will the proposed heat safety rules require

Heat Hazard Identification Assessment:

- Conduct Regular Heat Risk Assessments
- Monitor Outdoor Workplace Temperatures
 - *Heat Index or WBGT = NIOSH (Ral/Rel)*

Preventive Measures:

- Hydration
- Rest Breaks
- Shade and Cooling Areas

Training and Education:

- Provide Heat Safety Training
- Offering Acclimatization Programs
- Heat Illness Prevention Plan
- Emergency Medical Response

Recordkeeping and Reporting:

- Maintain Indoor Monitoring Data
- Create Incident Reporting Processes
- Conduct Regular Audits

Additional Requirements for High-Risk Industries:

- Enhanced Protections
- Special considerations for vulnerable workers





**Heat Stress
Pilot Program**



**Heat
Committee**



**Data
Collection &
Analysis**

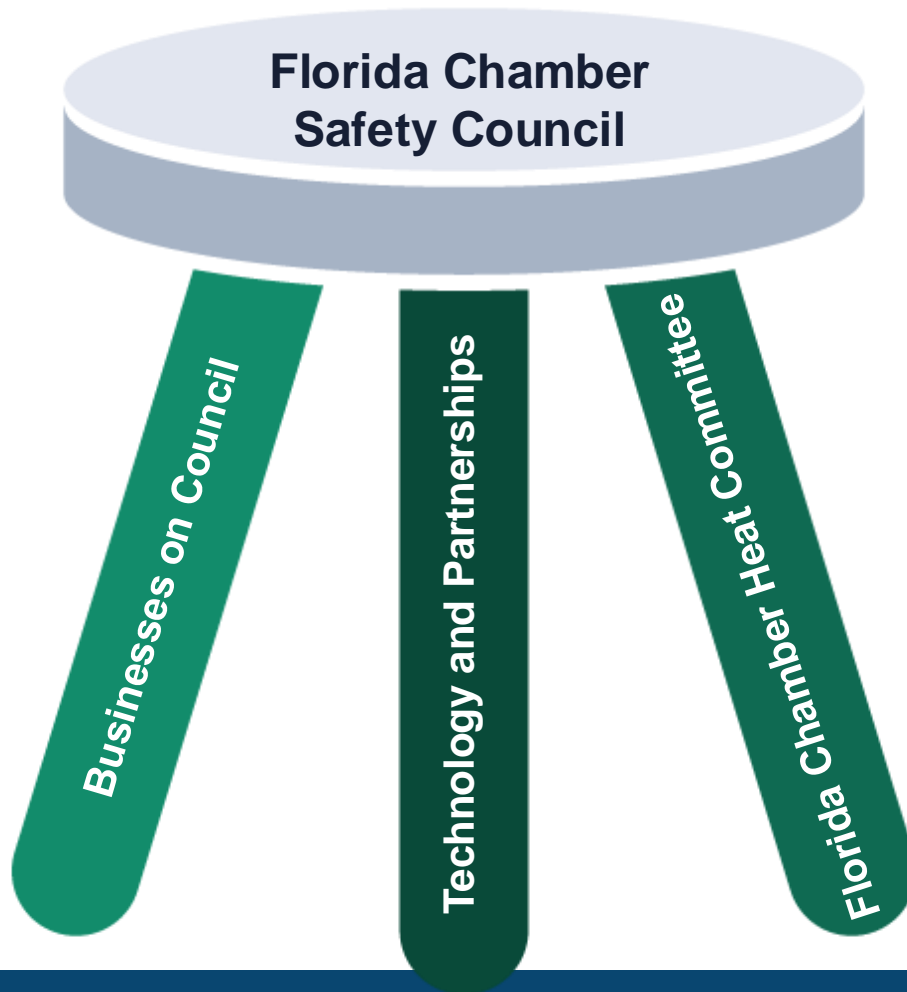


**Review
Proposed
Policies &
Regulations**



**Apply Rules
in Various
Industries**

Florida Chamber Safety Council Three-Legged Stool



Businesses on the Committee

- Advise on Industry – Specific Trends and Innovations
- Promote Best Practices and Compliance

Technology and Partnerships

- Advise on Heat Safety Research & Technology
- Provide Expertise on Standards & Best Practices

Florida Chamber Heat Committee

- Awareness About the Risk Associated w/ Heat Stress
- Conduct Public Education and Awareness Campaigns

BUSINESS LED SOLUTIONS TO KEEP EMPLOYEES SAFE

The unique climate of the United States requires proactive measures to ensure the well-being of employees working indoors or outdoors and being exposed to extreme heat.

[BUSINESS TOOLS](#)

[TRAININGS](#)

[NATIONAL WEATHER SERVICE](#)



Tempest^oOne

COMPATIBLE WITH **Disney HEAT**

TEMPEST HEAT ALERT

Application Benefits:

- Portable or Installed Heat Survey Kit
- Wet Bulb Globe Temperature (WBGT) Observation
 - Hourly & Daily Peak Forecast
 - Weather Radar w/ Map Layers
 - Rules Integration & Alerts
- Weather Observations Such as: Temperature, Pressure, Humidity, Radar, and Alerts
- Available on App Store & Google Play



**PORTABLE WEATHER
SYSTEM**

7.25 INCHES WIDE
12 INCHES LONG
3.5 LBS

Business-Led Heat Safety Solutions To Keep Florida Employees Safe.

Helping Employers Make Florida the Safest State in America.

The Florida Chamber Leadership Cabinet on Safety, Health & Sustainability is dedicated to making Florida the safest, healthiest, and most sustainable state in America. The Leadership Cabinet, which houses our **Florida Chamber Safety Council**, is composed of prominent national safety and health experts from companies across the nation. Together, they provide businesses of all sizes with best practices, training, and other invaluable resources to support this mission.

In response to the growing concern around heat illness, the **Florida Chamber Safety Council's Heat Committee** launched an online platform to support businesses of all sizes in preventing heat-related illnesses.

This platform helps businesses prevent heat-related illnesses through tailored resources, tools, and expert guidance. It is designed for safety professionals and small businesses without dedicated safety departments, providing tools for HR, operations, or compliance officers to ensure workplace safety.

HEAT STRESS PREVENTION TOOLS & RESOURCES



Heat Stress Prevention Toolkit – Offers essential guidelines, checklists, and templates to reduce heat-related risks.



Custom Heat Safety Training – Expert-led training tailored to specific work environments, focusing on prevention and early symptom recognition.



Heat Safety Mobile App – Provides real-time alerts, weather forecasts, hydration reminders, and safety tips for managing heat exposure.



Continuing Education & Training – Offers workshops, seminars, online courses, and certifications to maintain and improve heat safety practices.



And Much More – Explore additional tools, resources, and support to help businesses stay safe and compliant.

To access more tools and resources, scan the QR code or visit
flchambersafety.com.



2025 Leadership Conference – Register Today!



**LEADERSHIP
CONFERENCE**
on Safety, Health + Sustainability

**2025
LEADERSHIP CONFERENCE
ON SAFETY, HEALTH +
SUSTAINABILITY**

 **MAY 15-16, 2025**

REGISTER TODAY!



Daymond John



Matt Higgins



Chris Marr



Carey Lohrenz

2025 Leadership Conference Competitive Cohort Experience: Trainings Teams to Execute

Hands-On, High-Impact, and Unlike Anything You've Experienced Before!

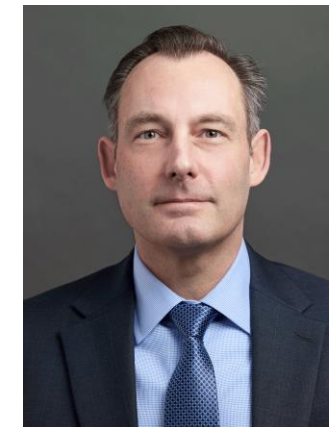
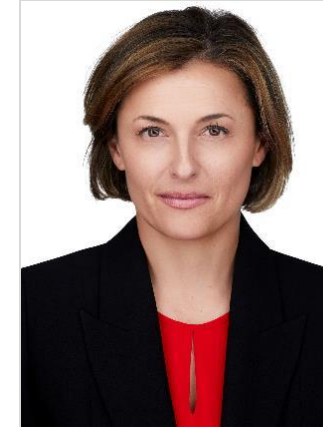
This **is not a traditional breakout session** — it's a real-world leadership challenge, where attendees apply knowledge in action-packed, competitive team environments.

HOW IT WORKS:

- › **DAY 1:** Teams rotate through **three high-impact sessions** in Safety, Health and Sustainability, each led by industry experts and former elite military professionals.
- › **DAY 2:** A **fighter pilot-style debrief**, where teams analyze their decisions, leadership under pressure, and performance — culminating in an **awards ceremony** recognizing the **top-performing team**.

KEY TAKEAWAYS

- › **Leadership Execution:** Learn battle-tested strategies to **enhance team performance and drive results**.
- › **Problem-Solving Under Pressure:** Gain insights into **navigating high-stakes workplace challenges**.
- › **Tangible Strategies:** Walk away with an **actionable plan** you can implement immediately.
- › **Exclusive Playbook:** Receive a **custom After Action Review (AAR) framework**, used by elite fighter pilots and Fortune 500 leaders.
- › **Networking & Recognition:** **Compete, collaborate and earn recognition** among top industry peers.



**An immersive, high-impact leadership training led by
Victory Strategies and their team of elite facilitators.**

Our Future Safety, Health, and Sustainability Community

The community is...

A dedicated platform for **leaders, decision-makers, and experts** in workplace safety, employee health, and sustainability to **connect, collaborate, and take action**.



Q&A

IV. Roundtable Discussion / Q&A

