UC SANTA CRUZ
HEAT ILLNESS PREVENTION PLAN

Introduction
California employers with any outdoor places of employment must comply with the Heat Illness Prevention Standard, T8 CCR 3395. This template program for UCSC covers the basic requirements of that regulation. Title 8 CCR 3203 requires an employer to establish, implement, and maintain an effective Injury and Illness Prevention Program (IIPP). The measures listed here may be integrated into the unit's IIPP and should be edited to include any specific or particular circumstances and procedures appropriate to the tasks and locations which may expose employees to heat illness hazards.

Your unit's completed procedures should also:

1. Identify by name the designated person(s) that will accomplish the assigned task(s) unless the unit has determined it is exempt from the requirements of the plan. The same person does not have to perform every single task, but all tasks must be assigned to specific individuals.
2. Provide specific details required to carry out the task and ensure that the task is accomplished successfully (e.g. how many water containers/shade structures, of what size, distance to placement, frequency of water-level replenishment/weather-tracking/water breaks/reminders, etc).
3. Specify how these procedures will be communicated to your employees and in particular to the persons assigned these responsibilities (e.g. via training, meeting), and how it will be ascertained that these company instructions and procedures are followed.
4. Complete the **Work Planning and Site Checklist** at the end of this plan
5. Ensure that a copy of the full Heat Illness Prevention Plan is available at the worksite.

Procedures for <u>Provision of Water</u>:

Employees on campus and at other affiliated locations where they have access to the interiors of buildings with plumbed sources of potable water do not need additional water supplies provided.

☐ This unit is exempt from these procedures (if checked, no designated person necessary below).

For field operations and tasks where employees cannot reasonably enter buildings, the following procedures must be used.

☐ [*designated person*] will bring the correct number of drinking water containers (of 5 to 10 gallons each) to the site, so that at least 2 quarts per employee are available at the start of the shift.

☐ [*designated person*] will bring a sufficient supply of paper cone rims or bags of disposable cups and the necessary cup dispensers to ensure that enough disposable cups are made available for each worker and are kept clean until used. Alternatively, employees may be furnished with individual refillable drinking containers for personal use.

☐ As part of the unit's Effective Replenishment Procedures, [*designated person*] will check the water level of all containers every 30 minutes, and more frequently when the temperature exceeds 90◦ F. When the water level within a container drops below 50%, water containers will be refilled with cool water. To accomplish this task, [*designated person*] will carry 1-2 additional water containers (i.e. 5 gallon bottles) to replace water as needed.

☐ When the temperature exceeds 90°F, [*designated person*] will carry ice in separate containers, so that when necessary, it will be added to the drinking water to keep it cool.

☐ [*designated person*] will check the work site and place the water as close as possible to the workers (i.e. no more than 50 feet from the workers). If field terrain prevents the water from being placed as close as possible to the workers, [*designated person*] will bring bottled water or individual containers (in addition to disposable cups and water containers), so that workers can have drinking water readily accessible.

☐ [*designated person*] will ensure that the water containers are relocated to follow along as the crew moves, so drinking water will be readily accessible.

☐ [*designated person*] will be responsible for cleaning the water containers and ensuring that they are kept in sanitary condition (all necessary cleaning supplies are provided by UCSC).

☐ [*designated person*] will point out daily the location of the water coolers to the workers and remind them to drink water frequently. When the temperature exceeds or is expected to exceed 85° F, [*designated person*] will hold a brief 'tailgate' meeting each morning to review with employees the importance of drinking water, the number and schedule of water and rest breaks and the signs and symptoms of heat illness.

☐ [*designated person*] will use audible devices (such as whistles or air horns) to remind employees to drink water.

☐ When the temperature equals or exceeds 85° F or during a heat wave, [*designated person*] will increase the number of water breaks, and will remind workers throughout the work shift to drink water.

☐ During employee training, the importance of frequent drinking of water will be stressed.

Procedures for <u>Access to Shade</u>:

Employees on campus and at other affiliated locations where they have access to the interiors of buildings for rest periods and as shade refuges do not need additional shade structures provided.

☐ This unit is exempt from these procedures (if checked, no designated person necessary below).

For field operations and tasks where employees cannot reasonably enter buildings, the following procedures must be used.

☐ Each [*designated person*] will bring the number of shade structures to the site necessary to accommodate at least 25 percent of the employees on the shift and either chairs, benches, sheets, towels or any other items to allow employees to sit and rest without contacting the bare ground. However, chairs, benches, etc. are not required for acceptable sources of shade such as trees.

☐ [*designated person*] will ensure that the shade structures are opened and placed as close as practical to the workers when the temperature equals or exceeds 80°F. When the temperature is below 80°F, the shade structures will be brought to the site, but do not need to be opened and set in place until worker(s) request. Note: The interior of a vehicle may not be used to provide shade unless the vehicle is air-conditioned and the air conditioner is on.

☐ [*designated person*] will point out the daily location of the shade structures to the workers as well as allow and encourage employees to take a 5 min cool-down rest in the shade, when they feel the need to do so to protect themselves from overheating.

☐ [*designated person*] will ensure that the shade structures are relocated to follow along with the crew and double-check that they are as close as practical to the employees, so that access to shade is provided at all times.

☐ In situations where trees or other vegetation are used to provide shade (such as in orchards), [*designated person*] will evaluate the thickness and shape of the shaded area (given the changing

angles of the sun during the entire shift), before assuming that sufficient shadow is being cast to protect employees.

☐ **In situations where it is not safe to provide shade (example winds of more than 40 mph),** [*designated person*] **will document how this determination was made, and what steps will be taken to provide shade upon request.**

☐ **For non-agricultural employers, in situations where it is not safe or feasible to provide shade,** [*designated person*] **will document how this determination was made, and what steps will be taken to provide shade upon request or other alternative cooling measures with equivalent protection.**

Procedures for Monitoring the Weather:

☐ 2 weeks in advance (or with as many days in advance as possible), the unit supervisor will go on the internet (www.nws.nooa.gov), call the National Weather Service phone number (San Francisco 831-656-1725(#1)) or check the Weather Channel TV Network to view the extended weather forecast in order to plan in advance the work schedule, know whether a heat wave is expected and if additional schedule modifications will be necessary. This type of advance planning should take place all summer long.

☐ Prior to each workday, [*designated person*] will review the forecasted temperature and humidity for the worksite and compare it against the National Weather service Heat Index to evaluate the risk level for heat illness, for instance whether or not workers will be exposed at a temperature and humidity characterized as either “extreme caution” or “extreme danger” for heat illnesses such as heat stroke. It is important to keep in mind that the temperature at which these warnings occur must be lowered as much as 15 degrees if the workers under consideration are in direct sunlight.

☐ Prior to each workday, [*designated person*] will be responsible for monitoring the weather (using www.nws.nooa.gov or with the aid of a simple thermometer) at the worksite. This critical weather information will be taken into consideration, to determine when it will be necessary to make modifications to the work schedule (such as stopping work early, rescheduling the job, working at night or during the cooler hours of the day, increasing the number of water and rest breaks).

☐ The shop lead, lead worker, or unit supervisor will be responsible for using a thermometer at the jobsite and checking the temperature every 60 minutes to monitor for sudden increases in temperature, to ensure that once the temperature exceeds 80^{o} F, the shade structures are opened and accessible to the workers and to make certain that once the temperature equals or exceeds 95° F additional preventive measures such as the High Heat Procedures are implemented.

Handling a Heat Wave:

☐ **During a heat wave or heat spike (e.g., a sudden increase in daytime temperature of 9 degrees or more), the work day will be cut short (example 12 PM), will be rescheduled (example conducted at night or during cooler hours) or if possible cease for the day.**

☐ If schedule modifications are not possible and workers have to work during a heat wave, [*designated person*] will provide a tailgate meeting to reinforce heat illness prevention with emergency response procedures and review the weather forecast with the workers. In addition, [*designated person*] will institute alternative preventive measures such as provide workers with an increased number of water and rest breaks every hour, supervise workers to ensure that they do stop work and take these breaks, and observe closely all workers for signs and symptoms of heat illness.

☐ **During a heat wave or heat spike (e.g., a sudden increase in daytime temperature of 9 degrees or more), and the start of the workday,** [*designated person*] **will hold a tailgate meeting with the workers to review the company heat illness prevention procedures, the weather forecast and emergency response.**

☐ [*designated person*]will assign each employee a “buddy” to be on the lookout for signs and symptoms of heat illness and ensure that emergency procedures are initiated when someone displays possible signs or symptoms of heat illness.

High Heat Procedures
[for use when the temperature equals or exceeds 95 degrees Fahrenheit]:

NOTE: These procedures are only required for employees engaged in agriculture, construction, landscaping, and transportation/delivery of agricultural products, construction materials or other heavy materials (e.g. furniture, lumber, freight, cargo, cabinets, industrial or commercial materials), except for employment that consists of operating an air-conditioned vehicle and does not include loading or unloading.

☐ This unit is exempt from these procedures (if checked, no designated person necessary below).

☐ [*designated person*] will ensure that effective communication by voice, observation, or electronic means is maintained so that employees at the worksite can contact a supervisor when necessary. If [*designated person*] is unable to be near the workers to observe them or communicate with them, then an electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.

☐ [*designated person*] will observe employees for alertness and signs and symptoms of heat illness.

☐ [*designated person*] will remind employees throughout the work shift to drink plenty of water.

☐ [*designated person*] will closely supervise a new employee, or assign a “buddy” or more experienced coworker for the first 14 days of the employee’s employment by the employer, unless the employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for 4 or more hours per day.

Procedures for Acclimatization include but are not limited to:

Acclimatization is the temporary and gradual physiological change in the body that occurs when the environmentally induced heat load to which the body is accustomed is significantly exceeded by environmental changes. The body needs time to adapt when temperatures rise suddenly, and an employee risks heat illness by not taking it easy when a heat wave strikes or when starting a new job that exposes the employee to heat to which the employee’s body hasn’t yet adjusted.

Inadequate acclimatization can imperil anyone exposed to conditions of heat and physical stress significantly more intense than what they are used to. Supervisors are responsible for the working conditions of their employees, and they must act effectively when conditions result in sudden exposure to heat their employees are not used to.

☐ The task supervisor will monitor the weather and in particular be on the look out for sudden heat wave(s), or increases in temperatures to which employees haven’t been exposed to for several weeks or longer.

☐ **During a heat wave or heat spike (e.g., a sudden increase in daytime temperature of 9 degrees or more), the work day will be cut short (example 12 PM), will be rescheduled (example conducted at night or during cooler hours) or if possible cease for the day.**

☐ During the hot summer months, the work shift will start [*(X) hour*] earlier in the day or later in the evening.

☐ For new employees, [*designated person*] will try to find ways to lessen the intensity of the employee's work during a two-week break-in period (such as scheduling slower paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early-morning or evening)). Steps taken to lessen the intensity of the workload for new employees will be documented.

☐ [*designated person*] will be extra-vigilant with new employees and stay alert to the presence of heat related symptoms.

☐ [*designated person*] will assign new employees a “buddy” or experienced coworker to watch each other closely for discomfort or symptoms of heat illness.

☐ During a heat wave, [*designated person*] will observe all employees closely (or maintain frequent communication via phone or radio) and be on the look out for possible symptoms of heat illness.

☐ The unit's training for employees and supervisors will include the importance of acclimatization, how it is developed and how these procedures address it.

Procedures for Emergency Response

Employees on campus and at other affiliated locations where they can readily and reliably contact Campus Dispatch for assistance do not need maps provided. Employees will be told to call 911 for any emergency.

☐ This unit is exempt from these procedures (if checked, no designated person necessary below).

For field operations and tasks where employees are not familiar with the location or the local emergency responders, the following procedures must be used.

☐ Prior to assigning a crew to a particular worksite, [*designated person*] will provide workers and the foreman a map along with clear and precise directions (such as streets or road names, distinguishing features and distances to major roads) of the site, to avoid a delay of emergency medical services.

☐ Prior to assigning a crew to a particular worksite, [*designated person*] will ensure that a qualified, appropriately trained and equipped person will be available at the site, to render first aid if necessary.

☐ Prior to the start of the shift, [*designated person*] will determine if a language barrier is present at the site and take steps (such as assigning the responsibility to call emergency medical services to the foreman or an English speaking worker) to ensure that emergency medical services can be immediately called in the event of an emergency.

☐ All foremen and supervisors will carry cell phones or other means of communication, to ensure that emergency medical services can be called and check that these are functional at the worksite prior to each shift.

☐ When an employee is showing symptoms of possible heat illness, [*designated person*] will take immediate steps to keep the stricken employee cool and comfortable once emergency service responders have been called (to reduce the progression to more serious illness).

☐ At remote locations such as rural farms, lots or undeveloped areas, [*designated person*] will designate an employee or employees to physically go to the nearest road or highway where emergency responders can see them. If daylight is diminished, the designated employee(s) shall be given reflective vest or flashlights in order to direct emergency personnel to the location of the worksite, which may not be visible form the road or highway.

☐ During a heat wave or hot temperatures, workers will be reminded and encouraged to immediately report to their supervisor any signs or symptoms they are experiencing.

☐ The unit's training for employees and supervisors will include every detail of these written emergency procedures.

Handling a Sick Employee:

☐ When an employee displays possible signs or symptoms of heat illness, a trained first aid worker will check the sick employee and determine whether resting in the shade and drinking cool water will suffice

or if emergency service providers will need to be called. Do not leave a sick worker alone in the shade, as he or she can take a turn for the worse!

- ☐ When an employee displays possible signs or symptoms of heat illness and no trained first aid worker is available at the site, call emergency service providers. On campus, dial 911 to reach Dispatch and request immediate medical response. Field research safety plans should include local emergency numbers.
- ☐ Call emergency service providers immediately if an employee displays signs or symptoms of heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), does not look OK or does not get better after drinking cool water and resting in the shade. While the ambulance is in route, initiate first aid (cool the worker: place in the shade, remove excess layers of clothing, place ice pack in the armpits and groin area and fan the victim). Do not let a sick worker leave the site, as they can get lost or die (when not being transported by ambulance and treatment has not been started by paramedics) before reaching a hospital!

Employee and Supervisory Training

UCSC managers will ensure that all line supervisors are trained prior to being assigned to supervise other workers who will be working **outside or in interior environments where there is a potential for high heat exposure due to equipment, PPE, or other factors**. Training will include the IIPP, these written Heat Illness Prevention procedures, and what steps supervisors will follow when employees exhibit symptoms consistent with heat illness.

The task supervisor will train employees on the steps that will be followed for contacting emergency medical services, including how they are to proceed when there are non-English speaking workers, how clear and precise directions to the site will be provided, and stress the need to make visual contact with emergency responders at the nearest road or landmark to direct them to their worksite.

When the temperature exceeds 75^{o} F, [*designated person*] will hold short 'tailgate' meetings to review the weather report, reinforce heat illness prevention with all workers and provide reminders to drink water frequently, to be on the lookout for signs and symptoms of heat illness and inform them that shade can be made available upon request.

The line supervisor will assign new employees a "buddy" or experienced coworker to ensure that they understood the training and follow UCSC procedures.

UC Santa Cruz Heat Illness Prevention Program
Work Planning and Site Checklist

Required when temperatures are expected to exceed 80°F.

Department/Group/Project:_____

Supervisor Name and Phone Number:_____
Worksite Location (specific enough for emergency response, use landmarks if needed):
_____
_____
_____
Expected Temperature: _____
Employees Covered (use back as needed): _____
Checklist Completed by: _____Date:_____

Drinking Water Availability At least one quart (4 cups) required per employee per hour for the entire shift, i.e. an 8 hour shift requires 2 gallons per employee
□ Plumbed water □ Water cooler provided □ Bottled water provided □ Other, describe below:

How will employees be provided access to sufficient drinking water? For backcountry trips or other work in remote locations describe expected natural water sources and treatment methods (e.g. filtration, boiling, chemical disinfection).

Shade May be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions. Shade is not considered adequate when heat in the area does not allow the body to cool (e.g. sitting in a hot car).
□ Building structures □ Trees □ Temporary Canopy/Tarp □ Vehicle with A/C □ Other, describe below:

How will employees be provided access to adequate shade?

Emergency Medical Procedures All employees must be able to provide clear and precise directions to the work site □ Cell phone service available □ If no cell service, describe emergency plan below:

What are the procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider? Where is the nearest phone? (use back as needed)

For remote locations, list employees on site trained in First Aid and verify that a Field Safety Plan is in place and available:

High Heat Procedures - Required when temperatures expected to exceed 95° F
If possible limit strenuous tasks to morning or late afternoon hours. Rest breaks in shade must be provided at least 10 minutes every 2 hours (or more if needed). Effective means of communication, observation and monitoring for sign of heat illness is required at all times. **Pre-shift meeting required.**
□ Direct supervision □ Buddy system □ Reliable cell or radio contact □ Other, describe below:

List names of any new employees working in heat for less than 14 days that must be supervised at all times:

First Aid Reference and Emergency Response - Signs and Symptoms of Heat Illness

Signs & Symptoms	Treatment	Response Action:
HEAT EXHAUSTION Dizziness, headache Rapid heart rate Pale, cool, clammy or flushed skin Nausea and/or vomiting Fatigue, thirst, muscle cramps	Stop all exertion. Move to a cool shaded place. Hydrate with cool water.	The most common type of heat illness. Initiate treatment. If no improvement, call 911 and seek medical help. Do not return to work in the sun. Heat exhaustion can progress to heat stroke.
HEAT STROKE Disoriented, irritable, combative, unconscious Hallucinations, seizures, poor balance Rapid heart rate Hot, dry and red skin (possibly moist and pale) Fever, body temperature above 104 °F	Move (gently) to a cooler spot in shade. Loosen clothing and spray exposed skin with water and fan. Cool by placing ice or cold packs along neck, chest, armpits and groin. Do not place ice directly on skin.	**Call 911 or seek medical help immediately.** **Heat stroke is a life threatening medical emergency. A victim can die within minutes if not properly treated. Efforts to reduce body temperature must begin immediately!**

Other Notes
(Attach other documents, maps, etc. as needed)

Related Resources

Emergency Medical or Police Response: 911
Campus Police Non-Emergency Number: (831) 459-2231
Weather Forecasts: http://www.wunderground.com/ or http://www.weather.gov/
Environmental Health & Safety Department: http://ehs.ucsc.edu/ or 831-459-2553
UC Santa Cruz Field Safety Program: http://ehs.ucsc.edu/programs/research-safety/field-research.html
Cal/OSHA Heat Illness Information and Regulations: https://www.dir.ca.gov/dosh/heatillnessinfo.html