

## Severe Weather Annex

Severe weather can be described as any meteorological event that can cause severe damage, disrupt normal activities, or cause loss of human life. Thunderstorms, tornados, tsunamis, Santa Ana Winds, and extremely warm temperatures are a hazard in Southern California. Each of these types of severe weather come with multiple safety and health challenges to consider.

### 1. Severe Wind Event (thunderstorm, Santa Ana Wind, or tornado)

- a. Severe Thunderstorms are classified as containing one or more of the following; lightning, hail one inch in diameter or greater, wind gusts exceeding 50 knots (58 mph), or a tornado.
- b. Tornados are violently rotating columns of air with circulation reaching the ground. Tornados almost always start as a funnel cloud and may be accompanied by a loud roaring noise.
- c. Santa Ana Winds are strong, dry, dust carrying winds originating from the inland deserts that blow Westward across Baja California and Southern California, typically during the Fall season.

### 2. High Temperature

Southern California is subject to occasional and prolonged extreme high temperatures. A Heat Advisory is when the heat index value is forecast to meet local advisory criteria for 1 to 2 days with a daytime high of 100-105° Fahrenheit.

### 3. Tsunami

A tsunami is a comprised of a large wave, or waves, in the ocean typically produced by seismic activity. Tsunami waves described as having waves that can travel over 500 mph in deep water and wavelengths of 60 to 300 miles long.

The following terms and elements apply to one or multiple severe weather types listed above.

- a. Severe Weather Warnings are urgent announcements that hazardous weather is occurring or is imminent in an area. Immediate actions must be taken to protect life and property.
- b. Severe Weather Watch are issued when a severe weather event is possible in an area.

## Mitigation

We can reduce the potential for weather related damages and keep people safe from severe weather.

### A. Thunderstorm Mitigation:

- Ensuring facilities and landscaping areas have adequate drainage and water resistant features
- Erosion control in campus areas including areas of low elevation
- Planting trees and the use of other vegetation to absorb overflow and runoff
- Participation and adopting ordinances that comply with NFIP
- Lightning protection such as lightning rods and grounding elements on infrastructure and facilities
- Surge protection devices to protect electronic equipment
- Anchor bolts on structures or equipment to high winds

### B. Santa Ana Winds Mitigation:

- Installation of green roofing materials to provide shade, or reflective products when possible
- Installing trees in common areas and along buildings to provide shade

### C. Tsunami Mitigation:

- Ensure proper flood drainage for the campus and limit future developments from impact zones
- Note: GCCCD properties are not in threat of waves but can experience issues related to tsunamis

## Preparedness

Preparing for hazards is crucial to reducing potential loss of life or property. Stages of preparedness occur over stretches of time such as seasonally or when emergency supplies expire. Other steps occur within days before a hazardous event.

### A. Thunderstorms

- Inspect weather proofing of windows, doorways, and openings with leak potential
- Inventory protective equipment such as window shutters and other wind and debris blocking materials

- Inspect rooftops for damages and low spots where water may collect during rain
- Inspect rooftop drainage systems to ensure proper function
- Ensure emergency supply stores are functional and not unspoiled
- Ensure power generators are in working order
- Review previous incidents in regard to thunderstorm damages and risk and modify accordingly to reduce possible repeated damages and risk
- Landscaping should be maintained to reduce debris during severe weather and to eliminate treefall hazard
- Campus-wide drainage must be inspected and maintained to ensure proper function during heavy rainfall which may include debris
- Lightning protective devices are to be inspected for proper function and grounding, this includes lightning rods and other outside devices as well as indoor electronic protective devices such as breaker systems and surge protectors.
- Annual testing of emergency information systems including campus loudspeakers, emails, text messages, weather radios, and informational website warnings
- Prepare and store sand bags for use across campus
- Stage water pumps for use in needed areas to remove storm water buildup
- Power off and unplug unused or unneeded equipment
- Store district assets that may be damaged by wind and debris
- Cover district assets with water resistant or debris blocking materials such as tarps
- Ensure immobile assets are secured in place
- Stage traffic cones and delineators near roadways and around campus in case of flooding or other incidents requiring closure of unsafe areas

## B. Santa Ana Winds

- Inspect weather seals on windows and doorways to prevent cool air loss
- Install window coverings such as awnings or temporary reflectors to reduce heat entering buildings.
- Inspect reflective coverings on buildings for functionality
- Install outdoor fans and misting lines in common area
- Inspect and maintain air conditioning units
- Maintain foliage cover such as tall trees and bushes to block sun and high winds
- Keep school grounds clear of landscaping debris and litter
- Remove vegetation that has become dried out
- Utilize landscaping materials with high heat resistance
- Ensure generator systems are in good condition in case of power restrictions (brown outs) or loss (black outs).
- Inspect GCCCD carts and vehicles, especially for fluids and emergency supplies
- Post heat advisory warnings on campus in common areas or utilize the mass communication system.
- Reduce air conditioning use by a few degrees to reduce power grid impact
- Medical staff and Public Safety should have extra first aid supplies for heat related illnesses, such as drinking water and body cooling resources
- Annually inspect fire prevention devices such as extinguishers and sprinkler systems

## C. Tsunami

GCCCD campuses are over 15 miles from the ocean. This places the campuses far from the main physical threat of a tsunami. However, in the past, GCCCD campuses have hosted various emergency efforts and may be called upon to do so again. In addition there are other hazards to the campus that may occur due to a tsunami.

- Ensure emergency supply storage units are functional and unspoiled
- Ensure adequate water purification equipment is on hand in case of contaminated water supply for the county
- Ensure that emergency power generators are in working order and well supplied
- Ensure water, electric, and gas utility lines are in good working order, including backflow prevention devices and shut offs
- Ensure notification speakers on campus are in good working order
- Plan relocation and emergency relief locations on campus, such as FEMA, Red Cross, and emergency responders
- Plan multiple areas of campus, inside buildings and in open spaces, for evacuee congregation

## Response

Responding to any hazard is one of the most difficult and time critical elements in any hazardous situation. Knowing what to do while a hazardous situation is occurring, an executing procedures, will save lives and reduce damages.

1. **Thunderstorm:** Most thunderstorms do not create a threat for GCCCD campuses. Only about ten percent of thunderstorms are classified as severe. However, some aspects of severe thunderstorms will require a safety response of variable level.

### A. High winds

- Utilize NOAA radios and monitor news outlets for advisories and updates
- Turn on GCCCD emergency radios located with building marshals and EOC staff
- Using the communications systems, instruct persons to move indoors and assist others to move
- Relocate courses requiring outdoor activity to indoors, such as a gymnasium
- Do not shelter near trees or other objects that may become debris or fall over
- Activate building marshals to assist in disseminating information.
- If conditions arise in which an area becomes unsafe, maintenance may be requested for assistance. This could include issues such as; shutting down power for a structure, shutting off electrical devices, shutting off gas or water, boarding up a damaged window, or closing a structure that has become unsafe

### B. Lightning

- Utilize NOAA Weather Radio for updates from local officials
- Utilize district communications to notify campus
- Consider moving outside courses and activities inside buildings to avoid potential injuries due to lightning strike
- Shelter indoors until thirty minutes after the last thunder strike was heard
- Avoid contact with corded phones and devices including those plugged into electric for recharging. Cordless and wireless phones not connected to wall outlets are OK to use
- Avoid contact with electrical equipment or cords. Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage
- Stay away from windows and doors
- Avoid natural lightning rods such as a tall, isolated tree in an open area
- Avoid hilltops, open fields or areas containing water
- Avoid contact with anything metal, work equipment, motorcycles, golf carts, sports gear, vehicles, and bicycles
- If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on emergency flashers until the heavy rain ends. Avoid touching metal or other surfaces that conduct electricity in and outside the vehicle
- Lightning strikes can produce fire, power outage, and other dangers. Alert proper authority to report safety concerns and damages. Includes; Public Safety, Sheriff's Department or 911, and/or operations departments
- Avoid any damaged powerlines due to risk of electrocution
- Do not enter any body of water

### C. Hail

- Utilize NOAA Weather Radio for updates from local officials
- If hail occurs, move indoors and help others indoors
- While driving, pull over and seek shelter
- Move away from windows as they may become damaged or break
- If damages or injury occur, notify Public Safety, Operations, or Emergency Services

### D. Heavy rains

- If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on emergency flashers until the heavy rain ends. Avoid touching metal or other surfaces that conduct electricity in and outside the vehicle
- If roadways become flooded and unsafe, Public Safety will, when safe, use delineators to mark off the area of roadway. If needed, Public Safety may administer other forms of traffic control for the area
- Heavy rain will create hazardous conditions across campus to pedestrians and carts in the form of slip and fall hazards, soil displacement, debris in common areas, and treefall. Remain indoors if possible.
- It is possible that water leaks will occur in structures. Contact master class scheduler for campus to arrange alternate course locations.

- Flooding of common areas may occur. When it is safe to do so, Public Safety and Facilities will be requested to cordon off an area using sandbags, cones, caution tape etc. to limit access to flooded areas.
- Large leaks which can cause structural damage, may cause building closure. Public Safety, building marshals, and other district and emergency personnel, may need to evacuate damaged structures.

#### E. Tornado

- Listen to NOAA Weather Radio or to commercial radio or television newscasts for the latest information
- Utilize district communications to notify of tornado warning or sighting
- During a tornado warning or sighting, quickly move to a designated shelter
- If located inside a vehicle, trailer, or mobile home, go to the lowest floor of a sturdy, nearby building or a storm shelter
- Remain in shelter until notified by Public Safety or Emergency Personnel that it is safe to leave the area

### 2. Santa Ana Winds

- Utilize NOAA radios and monitor news outlets for advisories and updates
- Use districtwide communication systems if necessary, including PA system and marshal radios
- Post signs regarding high temperature with proper hydration information and heat illness warnings
- Use a buddy system when working in extreme heat, and take frequent breaks
- Know the signs of heat related illnesses and monitor for them
- All persons are highly recommended to remain indoors and go outside only if necessary
- Utilize district vehicles and carts only as necessary
- Assist others in moving indoors
- Relocate or cancel courses requiring outdoor activities due to high heat or high wind. Move to an air conditioned facility
- Do not shelter near trees or other objects that may become debris or fall over in high winds
- Monitor landscaping and nature areas around campus for any signs of smoke. Monitor for any signs of damage caused by Santa Ana Winds, respond as necessary for campus safety

### 3. Tsunami

- Utilize NOAA weather radios and monitor news outlets for information about affected areas
- Use districtwide communication systems if necessary, including PA system and marshal radios
- Administer traffic control and place signage to direct evacuees and activate building marshals
- Assist first responders and emergency relief agencies with the movement, reception, and care of persons during an evacuation stage as directed
- Monitor water, electric, and gas utility lines to ensure proper function and safety, including backflow prevention devices and shut offs

## Recovery

Recovery efforts after any hazard will vary depending on the type and scope of the hazard. Every employee has the responsibility to help in the recovery process. After the hazard has ended;

- Begin assessing medical needs, including: first aid, contacting Health Services, emergency services, and public safety as needed
- Remove and relocate persons from areas of safety risk
- Utilize emergency supply caches and personal protective equipment as needed
- Create safe areas of travel including walkways, roads, and common areas
- Assess district infrastructure for damages. Follow protocol for damaged or at risk areas and utilities
- Be aware and take precautions against new safety issues created by the hazard
- Utilize emergency communications to advise the campus of situation. See Communications Annex tab in binder
- Identify needs of campus for alternative course locations, temporary structures, and possible emergency aid
- Make available and administer mental health first aid services and/or crisis response teams
- Have emergency contact information available to the public upon request
- EOC will determine the course of action for all school functions