CSU SAFETY PROCEDURES

PROCEDURE TITLE: Lightning Alert Response Procedures

Last Revision Date: August 17, 2026

GENERAL DESCRIPTION

Lightning poses a significant risk to outdoor sports and special events, endangering participants, spectators, and staff. Nationally, sporting events and recreational activities account for a disproportionate share of lightning-related injuries and fatalities each year, making proactive planning and rapid response essential components of any outdoor event safety program.

Colorado State University addresses this risk through a layered approach combining technology, trained decision-makers, pre-identified safe locations, and scalable response procedures. CSU utilizes DTN WeatherHub, a lightning prediction monitoring and alerting platform that leverages global lightning detection networks to display real-time strike data and issue automated alerts. When lightning is detected within a defined threat radius, DTN WeatherHub activates a siren and beacon warning system providing an immediate, audible and visible cue to initiate protective action eliminating reliance on visual observation alone.

GUIDELINES

Lightning is often an overlooked hazard, yet when DTN activates, precautions must be taken to prevent exposure to lightning. Although most lightning occurs in the summer, people can be struck at any time of year.

When DTN is activated, all CSU students, employees, and guests must seek safe shelter, and all CSU sanctioned events must cease operations and encourage participants to seek safe shelter.

LIGHTNING-SAFE LOCATIONS

Where to GO

1. **Indoors:** Fully-enclosed structures with electrical wiring and plumbing act as a "Faraday cage," which channels the lightning around occupants and reduces the risk of electrocution.
2. **Fully-Enclosed Vehicles:** When a structure is unavailable, vehicles with metal roofs act as conductors and direct lightning around the occupants. Vehicle tires can also provide grounding.
3. **No Place Outdoors is Completely Safe:** Low-lying areas away from tall objects offer some natural protection from direct strikes, but there is no outdoor location that is completely safe.

Where NOT to GO

1. **Open or Exposed Areas:** Whenever possible, avoid having people be the highest point in an open area. Wet fields can cause lightning risks to expand over the surface area should a strike occur. Additionally, metal bleachers or other exposed areas in and around venues can be deadly.
2. **Open Structures:** Open structures or shelters (e.g., pavilions, dugouts, gazebos) do not provide protection from lightning. This is also true for open cab vehicles, such as convertibles and golf carts.

DTN ACTIVATION PROCEDURES

Alert Signals
DTN has two alert signals.

Warning Signal: One (30 second) long blast from the horn and a red strobe light on the assembly begins intermittently flashing.
All-Clear Signal: Three separate (1 second) blasts from the horn and the strobe light will stop flashing. Activity may resume after the all-clear alert is made.

DTN Warning Signal Activation Procedures
When DTN goes into Warning Signal:

- All outdoor activities cease.
- Seek lightning-safe location nearby. The safest location is inside a large, enclosed structure with plumbing and electrical wiring.
- If no buildings are available, then an enclosed metal vehicle such as an automobile, van, or school bus makes a decent alternative.

NOTE: If conditions appear unsafe and a Warning Signal has not sounded, utilize sound judgement to assess your safety and guide decision making to cease activities despite the absence of a DTN Warning. If you hear thunder, get to a safe place immediately.

DTN Locations
DTN horn and strobes are located on top of the Campus Recreation Center, Jack Christensen Memorial Track, and at the Tennis Pavillion.

EVENT PRINCIPAL & INCIDENT COMMAND

Incident Command (IC) runs the tactical response (fire, police, EMS coordinating on the ground). The CSU Event Principal is a layer above/alongside that, a university senior decision-maker who:

- Holds ultimate authority to alter, delay, or shut down the event
- Owns the risk-tolerance decisions such as what triggers escalation, what's an acceptable risk to proceed vs. pause vs. cancel
- Is accountable for the event happening safely, even when tactical response is delegated elsewhere
- Gets briefed on unfolding conditions
- Makes the call on things outside pure tactical response: continue the event, hold in place, full evacuation, cancel outright
- Speaks for the institution's risk posture and liability position
- May need to coordinate with external stakeholders that an IC wouldn't touch

LIGHTNING SAFETY DECISION POINTS FOR EVENTS

WITHIN 15 MILES	WITHIN 12 MILES	WITHIN 8 MILES
- CSU is notified of increased lightning risk and notifies the event officials. - Event officials notify event staff of the potential for a delay. - An evacuation of the event may begin if it appears the thunderstorm is moving toward the venue. ○ *If an organized thunderstorm system is headed for the venue, a 30-minute lead time or more should be considered for an evacuation. Organized thunderstorms are major event-affecting storms with high lightning counts where an advanced delay or postponement of the event is justified. In these cases, the professional meteorologist should estimate the speed and direction of the storm movement to determine when it will enter an 8-mile radius of the venue.*	- CSU is notified of the impending lightning threat and updates / notifies the event officials. - Venue management informs all event staff of an impending delay. Event staff are stationed to direct the crowd to safe structures. - If there is high confidence that lightning will move within the designated minimum radius, evacuations of the facility may begin early at this distance if not already initiated. - An evacuation is necessary if a more organized thunderstorm system is headed for the venue.	- An event delay or cancellation is implemented when the National Weather Service notifies CSU of a nearby lightning threat and/or DTN is activated. - All event activities are suspended. - Venue management informs all event staff that the event has been suspended due to lightning in the area. Event staff, deployed to areas throughout the venue, will direct the crowd to safe structures. - An evacuation of the venue begins. - All patrons are directed to the nearest lightning-safe structure. - All event participants, performers, and officials will be evacuated to predesignated safe structures.

EVENTS NOT SUPPORTED BY PROFESSIONAL METEROLOGIST

MONITOR	Designate a Weather Safety Coordinator that will be responsible for monitoring and reporting potential lightning that may affect the event.	- Events not supported by a professional meteorologist must have an individual that is responsible for monitoring potential lightning via the DTN weather app.
NOTIFY	Once the designated Weather Safety Coordinator becomes aware of potential lightning that may impact their event, they will call the lead event coordinator.	- Notify lead event coordinator of the potential for lightning. - Prepare for potential evacuation.
ACTION	When DTN alarms, direct all lead event coordinators to initiate evacuation. The Weather Safety Coordinator should continue monitoring and assessing lightning, to include path, speed, and other determining factors that will impact the event.	- Initiate evacuation of event. - Notify emergency services if there is an injury or medical condition that occurs during the lightning / evacuation situation.
RECOVER	The Weather Safety Coordinator will wait 30 minutes after no thunder or lightning is observed before resuming activities utilizing the DTN app.	

EVENTS SUPPORTED BY PROFESSIONAL METEROLOGIST

MONITOR	National Weather Service and CSU Safety & Risk Services / Emergency Management will be responsible for monitoring potential lightning that may affect the event.	- Monitor potential lightning threats that may impact the event and drive decision-making.
NOTIFY	Safety & Risk Services / Emergency Management become aware of potential lightning that may impact the event.	- Notify Incident Command, CSU Event Principal, and lead event coordinators. - Prepare for potential evacuation.
ACTION	The CSU Event Principal, in coordination with Incident Command, NWS, and lead event coordinators should continue monitoring and assessing lightning, to include path, speed, and other determining factors that will impact the event.	- Incident Command ensures event staff are alerted of the impacting lightning event as well as actions being taken by the organization/entity. - Incident Command implements or prepares safety procedures, including public address messaging, shelter in-place directives, and dispatching security/ event services staff to assist in guests/ visitors to safe locations.

		- Evacuations to "safe locations" could involve moving guests/visitors off property, so it is important to have coordination with traffic control entities supporting the event. - Incident Command will coordinate any medical response where necessary to assist staff and guests/visitors.
RECOVER	The CSU Event Principal, in coordination with Incident Command and NWS, issues an all clear once the lightning danger is a safe distance beyond the event location and the incident is deemed over.	

RESUMING AN EVENT

If the venue **does not consult with a professional meteorologist** who is using real-time lightning data, the event/venue will wait 30 minutes after no thunder or lightning is observed before resuming activities utilizing the DTN app.

If the venue **is consulting with a professional meteorologist** who is using real-time cloud-to-cloud and cloud-to-ground lightning data, the event may resume if ALL the following conditions are met:

- Lightning has moved beyond 8 miles of the venue.
- The storm motion is taking the lightning activity away from the venue.
- The threat of new lightning strikes within 8 miles of the venue has ended.