

Adapting to Extreme Heat Emergencies

Adapting to Heat

Despite all heat-related deaths and illnesses being preventable, each year an average of about 658 people succumb to extreme heat.

As we experience the increase in global temperatures, people are exposed to hotter weather than they are accustomed to. The more extreme summer weather can make people more vulnerable to heat-related illnesses and death. Today, people have an increased risk posed by heatwaves (defined as three or more consecutive days with at least 90°F [32°C] heat). The heatwaves are exacerbated by features of the built environment, including limited access to transportation, medical care, and cooling centers.

A built environment leads to the 'urban heat island effect.' This makes urban centers significantly warmer than their surrounding rural areas, even on average days. Urban heat occurs because these areas have much more concrete and asphalt, absorbing more of the sun's energy.

People in cities are at a higher risk of heatwaves due to the impact of the heat island effect. However, organizations can help their employees, the infrastructure, and critical systems reduce the vulnerability to heat emergencies. These steps are both in response to an extreme heat event and as part of longer-term planning to lessen future risks.

To safeguard against the effects of extreme heat on people's health in the short term, organizations should establish early warning systems, a communications protocol, and cooling areas. In addition, raise awareness about risk factors, symptoms of heat-related illness, and when and how to seek treatment.

To improve resilience to future extreme heat events, organizations should incorporate heat island reduction strategies. There is an innovative way to reduce the heat in your area. Your organization can establish green or cool roofs, use cool pavements, and increased vegetation and trees. Long-term planning efforts help lower urban temperatures. These cooling measures help to reduce impacts on public health and urban systems from extreme heat events.

Comprehensive Heat Response Planning

The most effective way to reduce the negative impacts of an extreme heat event is to develop a comprehensive heat response plan that combines individual strategies into an integrated approach. Components of such a plan might include forecasting and monitoring, education and awareness, and heatwave response, as described in the sections below.

Forecasting and Monitoring

Reliable weather forecasts allow organizations to promptly warn their members of heat waves and prepare responses. It is recommended to use meteorological data in the National Weather Service's (NWS) 5-day regional forecasts to forecast and monitor heat.

In addition, a formal system for notifying members of your organization about the heatwave, especially for urban areas. These announcements should communicate the anticipated arrival, duration, and severity of the potential heatwave.

Education and Awareness

At a minimum, announcements made using the Titan HST broadcast messaging feature, should include information on the anticipated arrival, duration, and severity of the forecast heat emergency. In addition, these announcements need to provide members of the organization with information about critical Heat Emergency risk factors (see the list below).

One way to enhance the safety education program for Heat Emergency risks, impacts, and personal response strategies is to repeatedly present a clear and consistent message. Schedule these reminders to recur throughout the hottest summer months.

- Potential risk factors (e.g., being very young or old, using certain medications, having physical or mental impairments that restrict mobility, homelessness or lack of access to air-conditioned spaces, being socially isolated, working or spending extended time outside)
- Symptoms of excessive heat exposure (e.g., dizziness, nausea, confusion, muscle cramps)
- Recommended response and treatment (e.g., seek air-conditioned locations, stay hydrated)

If possible, start education and awareness efforts early, before the summer heat arrives: the first heatwave of the season, before people have acclimated to the heat, tends to be the deadliest. Find out when the first heatwave of the season is in your area and schedule an education and awareness broadcast message in advance to ensure everyone receives it before the heatwave arrives.

Heatwave Response

During heat waves, organizations can take several steps to protect their members and infrastructure:

- Provide community cooling areas for members of the organization. Store maps of the cooling area locations within the Resources section of the Titan HST app.
- Ensure proper functioning of energy and water systems.
- Communicate heat warning information and appropriate responses to the members of the organization.
- Encourage energy conservation to reduce demand on electricity systems.

References:

<https://www.cdc.gov/disasters/extremeheat/index.html>

<https://www.ready.gov/heat>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2957923/>