

Heat burst hits Gothenburg early Friday morning

Written by Elizabeth Barrett
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STORM DAMAGE
Much of Gothenburg woke to downed tree branches and lots of leaves scattered across lawns after a thunderstorm rolled through the area early Monday morning.
Some residents had to re-set clocks after power outages.
City administrator Bruce Clymer said a tree blew down on 18th Street, between Avenues C and D, and knocked down a power line.
As a result, power in the northwest part of the city was out for a couple of hours between Avenue A and Lake Avenue.
Clymer said a breaker was also inoperative, eliminating power to those who live north and south of 17th Street in a four-to-five-block area.

Most Gothenburg residents were most likely asleep during pre-dawn hours last Friday when temperatures spiked, humidity tumbled and the wind began to roar.

The result is what meteorologists call a “heat burst” which occurs with a rapid rise in temperature, a swift drop in humidity and gusty winds.

According to the National Weather Service in Hastings, conditions in Gothenburg at 2:33 a.m. were 80 degrees with 60% humidity.

The temperature quickly climbed to 94 degrees, humidity plummeted to 14% and the wind gusted to 44 mph.

NWS officials said the rare phenomenon was brought on by showers and thunderstorms with high cloud bases (around 12,000 feet) that repeatedly formed and dissipated from north-central Kansas into south-central Nebraska.

Holdrege also experienced a heat burst when the temperature soared from 79 to 97 degrees and humidity dropped from 56% to 11%.

The wind blew at 41 mph.

Other locations experienced heat burst activity but the changes were not quite as extreme, NWS officials said.

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Heat bursts are caused when a shower or thunderstorm weakens over a layer of very dry air, weather officials said.

As the last of the precipitation from the weakening shower or thunderstorm falls through the layer of dry air, it begins to evaporating and causes the air to cool.

Cool air is denser so it descends to the surface at a high rate of speed and precipitation within the descending air evaporates.

NWS officials said the air is then dry and can no longer cool.

As it drops through the atmosphere, compression causes the air to warm and the momentum—caused by rapid descent—changes into strong wind.

Surface temperature also increases and dew points drop.

Also on Friday, smoke from fires in Colorado created an orange-colored sky.

“We had all kinds of interesting weather,” said meteorologist Darren Snively of the NWS in North Platte. “And we got some really good rains out of it.”

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