

How To Use: Oklahoma Cattle Comfort Advisor

Introduction

Cattle comfort is important to weight gain, disease resistance, productivity, and an overall better level of health. The Mesonet Cattle Comfort Advisor estimates cattle comfort levels based on data from the Oklahoma Mesonet and National Weather Service (NWS) forecasts. The Mesonet Cattle Comfort Advisor continuously monitors heat or cold stress on a year-round basis. It is like a human heat index or wind chill, but additional weather variables are considered. For example, sunlight adds to heat stress, while in cold situations it decreases cold stress. Winds decrease heat stress and relative humidity increased cold stress.

Forecast products for the Mesonet Cattle Comfort Advisor are based on the NWS 84-hour (3 ½ day) North American Mesoscale Model (NAM). The NAM forecast is updated every six hours (12am, 6am, 12pm, and 6pm CST).

The Cattle Comfort Advisor is accessible by utilizing an internet connected computer, tablet, or smartphone on the Mesonet website (mesonet.org). Once on the site, select the Agriculture tab, then Livestock, then either the dairy or beef cattle icon.

Cattle Comfort Index:

A statewide map will show up with 4 tabs along the top. You have the option of looking at the current cattle comfort index conditions (updates every 5 minutes), today's minimum and maximum index, or water demand (discussed later).

When either the minimum or maximum index tab is opened, the left and right arrows on the top of the map allow the user to look at the previous two days or a forecast for the next two days.

What the Numbers Mean:

The Cattle Comfort Index category ranges shown in Table 1 below are for healthy animals that have developed a hair coat appropriate for the season and are receiving feed and nutrient amounts sufficient for the levels of exposure. It also assumes the hair coat is dry.

Mesonet Cattle Comfort Index values are reported as degrees Fahrenheit. The values do not represent exact temperatures. But they approximate hot and cold levels an animal is being exposed to and is dealing with physiologically.



Cattle Comfort Advisor

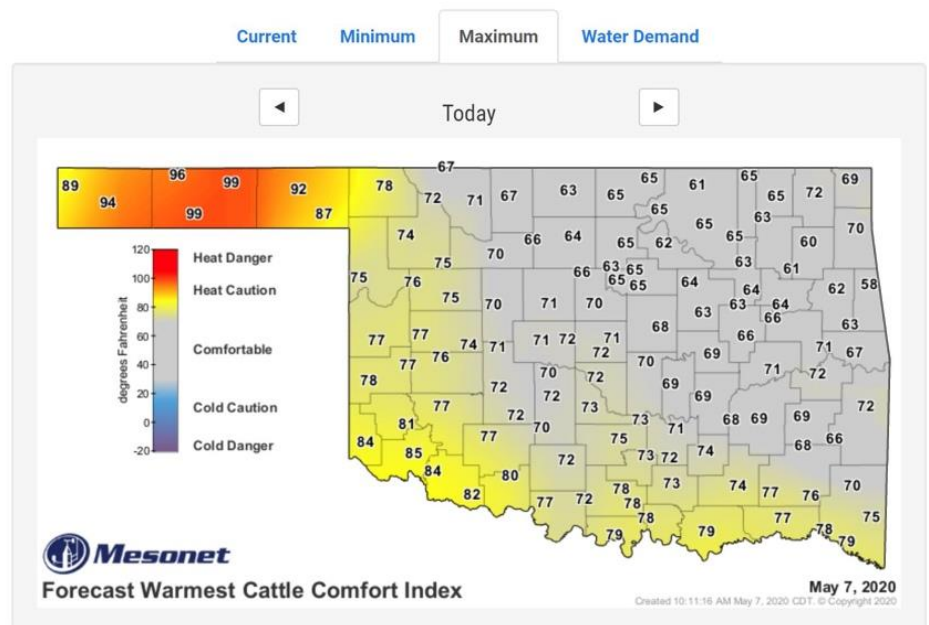


Table 1. Heat and cold stress level categories for the Mesonet Cattle Comfort Advisor are:

Mesonet Cattle Comfort Categories	Cattle Comfort Index °F	Impacts
Heat Danger	>105	Animal deaths may exceed 5%
Heat Caution	>85 to 105	Decreased production, 20% or more. Reduced conception, as low as 0%
Comfortable	15 to 85	
Clod Caution	< -20 to 15	18-36% increase in dry animal feed
Cold Danger	<-20	

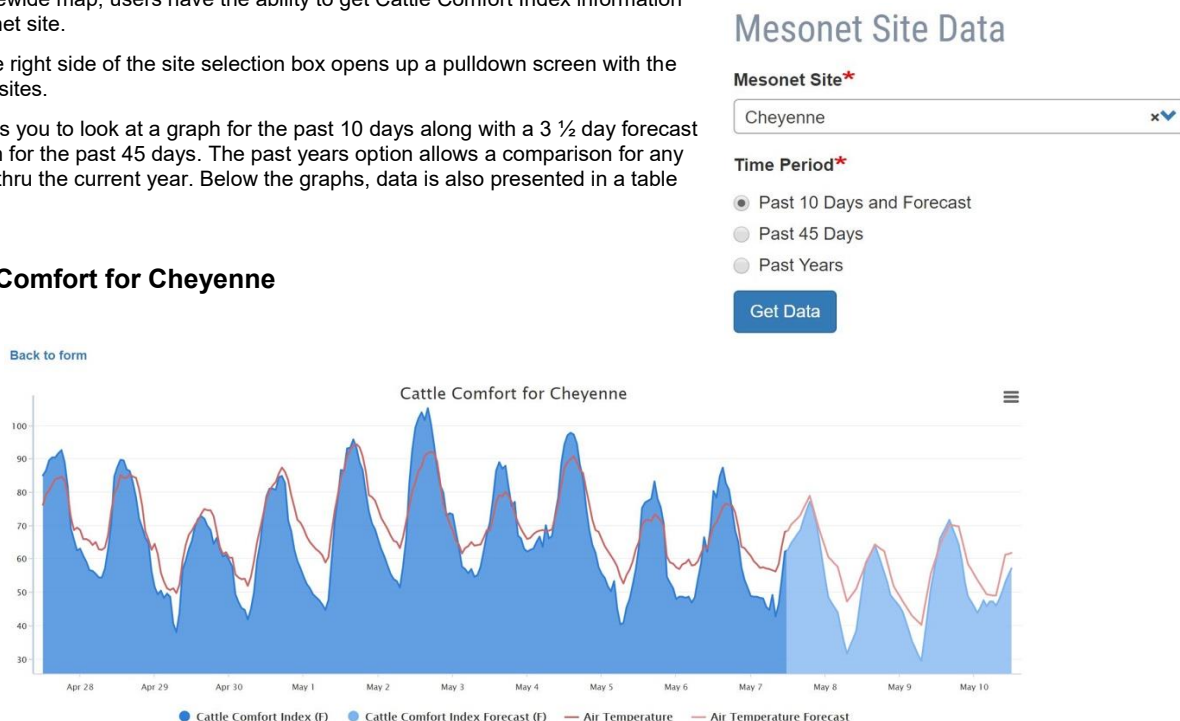
Specific Mesonet Site Information:

In addition to the statewide map, users have the ability to get Cattle Comfort Index information for a particular Mesonet site.

The blue arrow on the right side of the site selection box opens up a pulldown screen with the current 120 Mesonet sites.

The time period allows you to look at a graph for the past 10 days along with a 3 ½ day forecast (Graph 1), or a graph for the past 45 days. The past years option allows a comparison for any two years from 2008 thru the current year. Below the graphs, data is also presented in a table format.

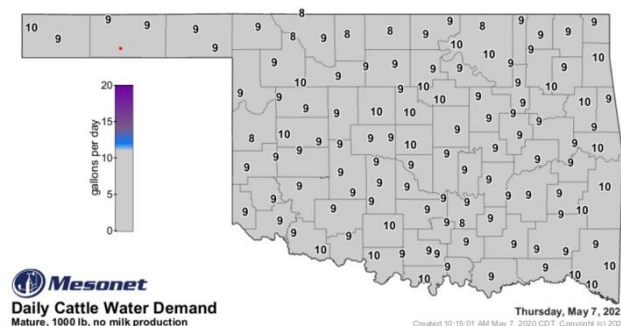
Graph 1. Cattle Comfort for Cheyenne



Daily Water Demand:

A new feature to this advisor is the Daily Cattle Water Demand. It is based on a model for mature cows. For simplicity this tool assumes a 1000-pound cow that is not lactating.

Milk production can increase water demand dramatically. Larger cattle will also consume a larger quantity of water. For example, a 1300-pound cow will likely consume about 30% more water than the map predicts for the 1000-pound cow.



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