



Cold Advisory for Newborn Livestock (CANL) Fact Sheet

The CANL index was created by the NWS Glasgow office, Dr. Larry Kalkstein at the University of Miami and Dr. Katrina Frank at the University of Delaware. It is designed to indicate weather conditions dangerous to newborn livestock. The criteria for the index were derived from interviews with ranchers and from published scientific research on animal health.

What weather elements make up the CANL system? Based on our research and feedback from the ranching community, the following were identified as a hazardous weather elements that increased risk of problems or death to exposed newborns:

- Wind chill
- Rain or Wet Snow
- High Humidity (because it makes it more difficult to dry off the animal)
- Combinations of these elements (such as windchill and rain) are particularly dangerous

If the following conditions are met within a 6-hour period, the associated index will be:

None:	Wind Chill above 41 degrees
Slight:	Wind Chill below 41 degrees for more than 2 hours.
Mild:	Wind Chill below 32 degrees for more than 2 hours.
Moderate:	Wind Chill below 0 degrees for more than 2 hours.
Severe:	Wind Chill below -9 degrees for more than 2 hours or Wind Chill below 32 degrees and minimum Relative Humidity greater than 80% or Wind Chill below 32 degrees and more than .02 inches of precipitation
Extreme:	Wind Chill below -18 degrees for more than 2 hours or Wind Chill below 32 degrees for 2 hours and more than 0.1 inches of precipitation.

What are we considering to be newborn livestock? We are targeting those livestock that are less than 24-hours old because these animals are least able to regulate their body temperature and therefore most susceptible to the cold. Also, after several hours, producers may have had a chance to get to the animal, dry it off, and provide shelter as needed.

How often is the product issued? CANL graphics are currently generated at 4 am and 4 pm with updates as needed through the day. The forecast graphics are for six-hour periods out through 36 hours.

How can I access this information? Detailed graphics will be available on the internet at the following website: <http://www.wrh.noaa.gov/ggw/canl/canl.html> A text product in the form of a public information statement will also be broadcast on the NOAA Weather Radio transmitters for those who do not have internet access. Due to limitations in the text product,

the information in the public information statement is more generalized than what you can see in the graphical products.

When will the CANL information be available? The web graphics and the information on the NOAA Weather Radio will be run from mid January through the end of May.

How can I provide feedback? Feedback is critical to the evaluation of the data we are providing. You can provide feedback online at: <http://www.weather.gov/survey/nws-survey.php?code=GGW-CANL> or you can call the NWS Glasgow office and speak to Tanja Fransen or Bill Martin at 406-228-2850.

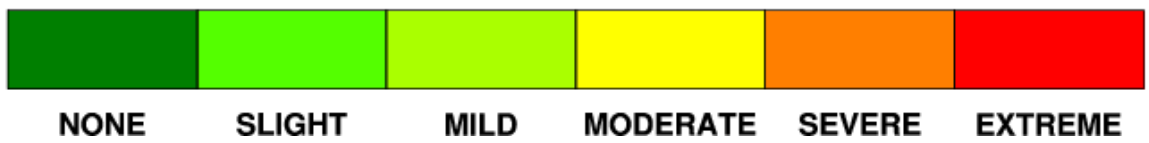
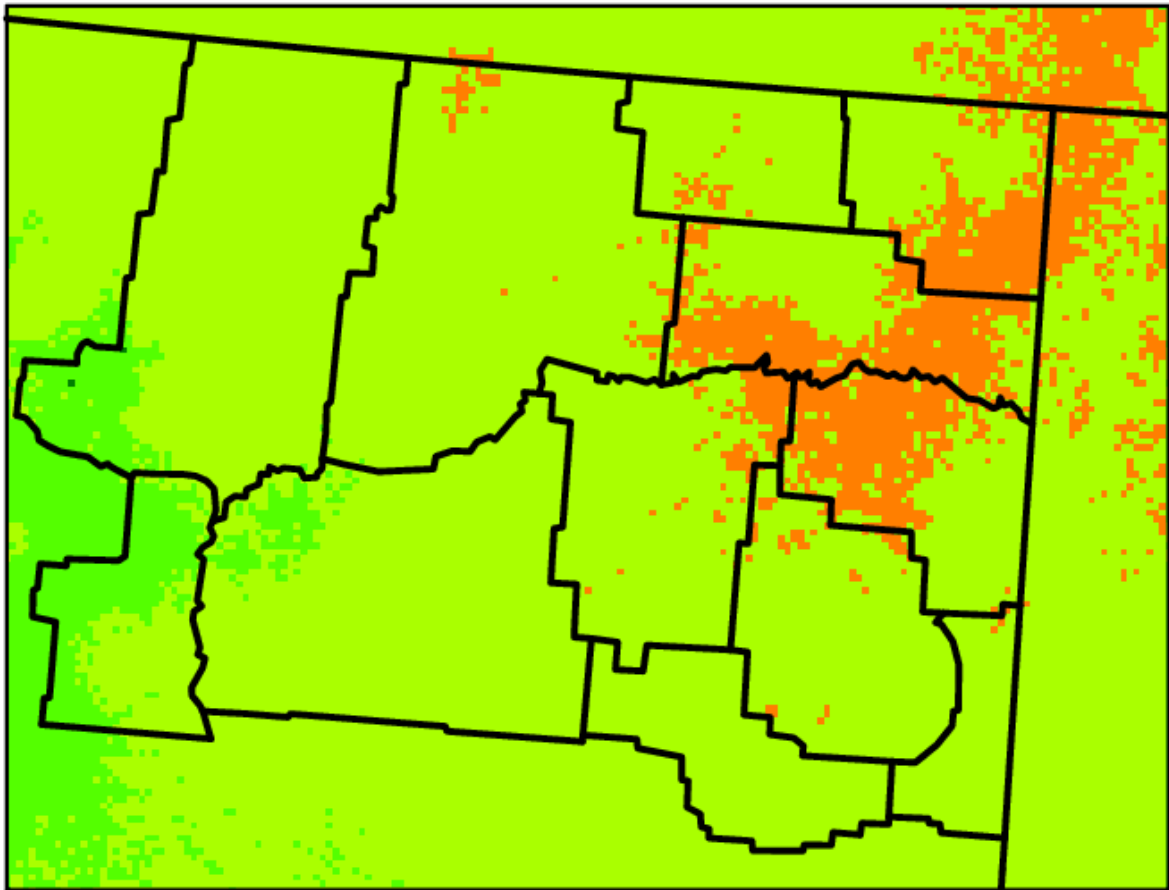
Is this research being published? The International Journal of Biometeorology will be publishing this research in early 2009 in a special animal sciences publication. For more information, visit: <http://ags.ou.edu/~isb/ISBPubs.html>

Who funded the research for this? This system was developed by the University of Miami and the National Weather Service in Glasgow under a sub-award with the University Corporation for Atmospheric Research (UCAR) under Cooperative Agreement No. # S08-68874 with the National Oceanic and Atmospheric Administration (NOAA) and U.S. Department of Commerce (DOC).

VALID: Tue-Feb-03-2009: 6pm-Midnight

Plot Generated Tue Feb 3 10:00:37 2009

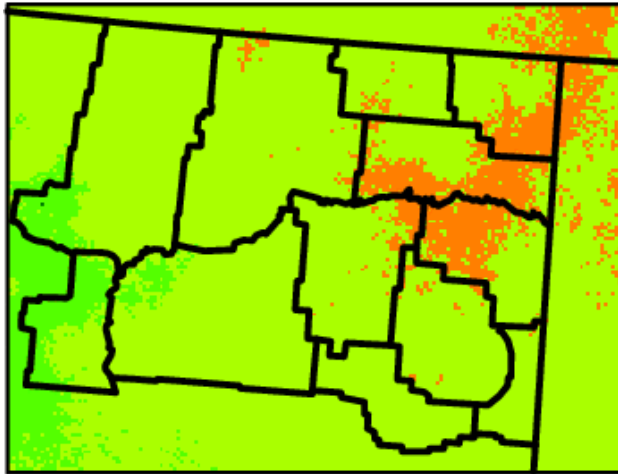
CANL Index for NE MT Counties



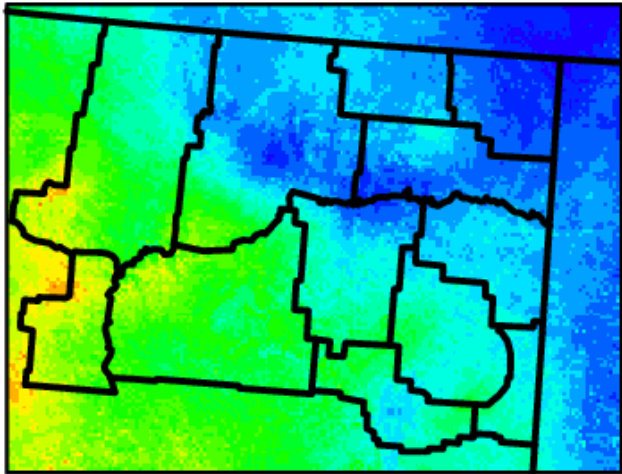
Example of the CANL graphic from 6 pm to midnight on Feb 4, 2009.

Cold Advisory for Newborn Livestock Tue-Feb-03-2009: 6pm-Midnight Plot Generated Tue Feb 3 10:00:37 2009

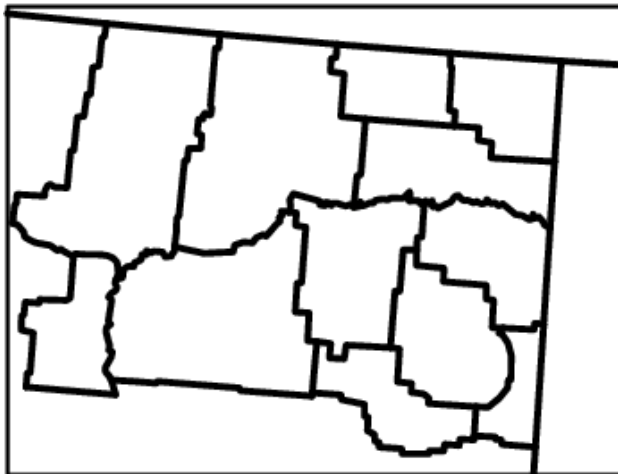
CANL Index for NE MT Counties



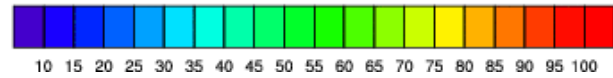
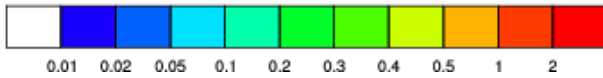
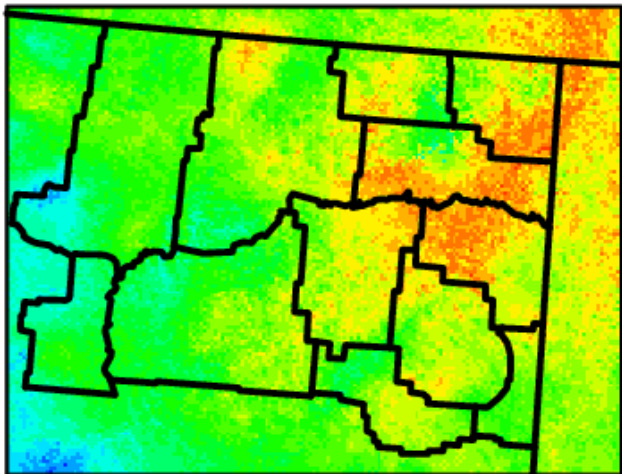
Wind Chill Values, Degrees F



Forecast Liquid Equiv. Precip., inches



Forecast Min. RH, %



Example: Graphics showing the input that the CANL graphic is derived from. In this example, the CANL graphic (upper left) shows a “severe” category over portions of extreme northeast Montana. If you look at the wind chill, humidity and precipitation graphical forecasts, you can see that the humidity forecast and the wind chill are the two reasons the CANL shows up as “severe.”