



Cold Advisory for Newborn Livestock (CANL) Fact Sheet

The CANL system was created by the NOAA/National Weather Service in Glasgow, Montana, Dr. Larry Kalkstein at the University of Miami, and Dr. Katrina Frank at the University of Delaware. Dr. Kalkstein is a leading researcher on weather effects on humans (biometeorology), and Dr. Frank has a background in animal sciences and climatology (bioclimatologist). The system is designed to indicate weather conditions dangerous to newborn livestock. The criteria for this system were derived from interviews with ranchers and from published scientific research on animal health.

What weather elements make up the CANL system? Based on published research and feedback from the ranching community, the following were identified as 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 for wet newborns to dry-off)
- Combinations of these elements (such as wind chill and rain) are particularly dangerous
- Sunshine vs. Cloudy Days

CANL CRITERIA

NO ADVISORY: Wind Chill above 41 degrees

SLIGHT: Wind Chill less than 41 degrees for 2 or more hours

MILD: Wind Chill less than 32 degrees for 2 or more hours

MODERATE: Wind Chill less than 0 degrees for 2 or more hours or wind chill less than 36 degrees for 2 or more hours and .02" precipitation.

SEVERE: Wind Chill of -9 degrees or colder for two or more hours, or wind chill of less than 34 degrees for 2 or more hours and .05" of precipitation

EXTREME: Wind Chill of -18 or colder for two or more hours, or wind chill less than 32 degrees for 2 or more hours and .1" of precipitation

For sunny conditions (aveSKY<40%), reduce Wind Chill thresholds by 10 degrees.

For humid conditions (minRH>95%), increase Wind Chill thresholds by 10 degrees.

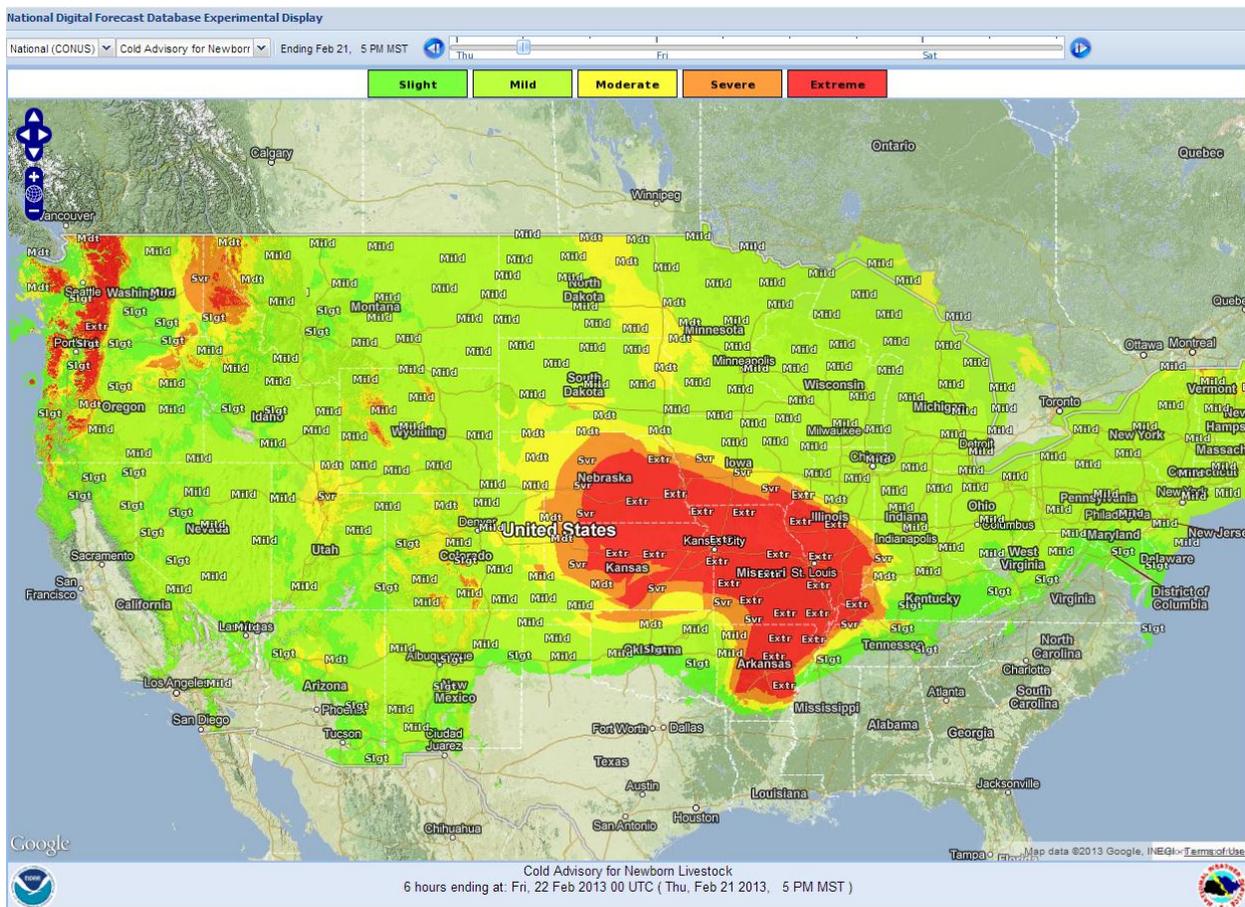
For dry snow conditions (Tmax<26F), double the precipitation thresholds for MOD to EXTREME.

What are considered to be "newborn" livestock? The target is 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 can I access this information? Detailed graphics will be available on the internet at the following website: <http://preview.weather.gov/graphical/> In the drop down menu, select Cold Advisory for Newborn Livestock under the Severe Weather Section.

How can I provide feedback or ask questions? Feedback is appreciated. You can provide feedback or ask questions about the system by calling the NWS Glasgow office and asking for Tanja Fransen or Bill Martin at 406-228-2850, or emailing us at tanja.fransen@noaa.gov or bill.martin@noaa.gov

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).



Example of the CANL graphic from 18z Feb 21, 2013 to 00z Feb 22, 2013