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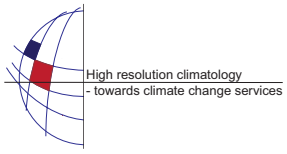

Agricultural Decision Making Using North Dakota Agricultural Weather Network

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The North Dakota Agricultural Weather Network (NDAWN) consists of 72 automated weather stations spread across agricultural locations of North Dakota, the Red River Valley, and border regions of surrounding states. The NDAWN Center is a part of the Department of Soil Science, North Dakota State University. The NDAWN stations measure wind speed and direction, air temperature, rainfall, solar radiation, pressure (31 stations), atmospheric moisture and soil temperatures under bare and turf at 10 cm (4 inch) depth. The center provides daily summaries consisting of maximums and minimums as well as time of occurrence, and various totals or averages for all variables in English or metric units. Measured and calculated variables along with complete descriptions are available. The NDAWN Center web site: http://ndawn.ndsu.nodak.edu/ allows direct access to NDAWN data in various special and temporal scales. The voice modem accommodates those who do not have internet access. The NDAWN Center has assisted many North Dakotans in making weather critical decisions concerning their crops, livestock, and livelihood. The stations provide weather data, which was instrumental in developing various agricultural models including but not limited to the late blight model, degree day and growth stage models for barley, corn, canola, potato, sugarbeet, sunflower, wheat and other small grains, irrigation scheduling, crop water use, sugarbeet root maggot, and insect development models. Late blight model, for example, predicts when leaf disease can occur in potato plants. Late blight doesn't occur in North Dakota every year and is prevalent during cool and moist periods of weather. In 1993-94, this model predicted that late blight would occur and growers were able to use fungicide applications to prevent the disease. Another direct benefit of NDAWN data is that it provides universities and the National Weather Service with an additional database for research and forecasting applications. Agriculture remains the number one industry in North Dakota and its success will always be dependent on the weather.