



Remote weather stations prove their value to farmers

By **DAVE LEDER**
For the Capital Press

Farmers all over Washington state have come to depend daily on AgWeatherNet, an extensive weather-tracking network that collects a range of atmospheric data from remote monitoring stations and relays the information to the public over the internet.

The 30-year-old network, based on the Washington State University Extension campus in Prosser, provides access to current and historical weather data at wsu.weather.edu, as well as a range of models and scientific analyses that help farmers manage their crops.

Researchers around the U.S. and the world also access the data, which is collected by 176 automated stations around the state. The information from the sensors and data loggers is transmitted back to the AgWeatherNet team using a standard cellphone network.

Meteorologist Nic Loyd and his team then analyze the data and generate reports in a variety of formats.

“We can present the data using maps, graphs, tables or whatever people need,” said Loyd, an associate researcher who works with 10 others at the WSU Irrigated Agriculture Research and Extension Center. “The network is designed to help people make the best decisions about crop management. We’re basically here to assist.”

In addition to providing weather data on the website every day, the AgWeatherNet team prepares a weekly email newsletter for its 11,000 members, summarizing data from the previous week and informing users of what they can expect in the week ahead.



Photos by David Leder/For the Capital Press

Nic Loyd, a meteorologist and associate researcher with AgWeatherNet, uses the data collected by 176 weather stations around Washington state to provide detailed reports on the website, weather.wsu.edu.

Standard weather variables monitored by the network include air temperature, relative humidity, dew point temperature, soil temperature at 8 inches, rainfall, wind speed, wind direction, solar radiation and leaf wetness.

Some stations also measure atmospheric pressure — variables that are recorded every five seconds and summarized every 15 minutes by a solar-powered data logger.

“There are lots of ways to look at the data, so we just try to provide the highlights,” Loyd said. “It’s more of a synopsis.”

Farmers in Central Washington may look to AgWeatherNet for current wind con-

ditions so they know if it’s a good time to spray their crops. Or, they may be looking for advice about when to start frost protection in the spring or when to prepare for an extreme heat event in the summer.

Website users can sort the data however they choose and then access reports that contain specific information that may affect their operation.

The AgWeatherNet researchers understand how much people depend on their work, so they inspect each station at least twice a year to ensure all of the systems are running properly.

“Our users rely on us to



A detailed view of the sensors atop the AgWeatherNet weather stations. The sensors track data related to wind speed, wind direction, air temperature, relative humidity, soil temperature and more.



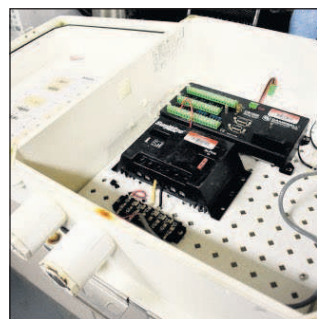
Loyd talks about AgWeatherNet’s website, weather.wsu.edu, which presents detailed weather data from 176 remote tracking stations.

provide them with accurate information throughout the year, so we always want to make sure we’re being as thorough as possible,” Loyd said. “Our main focus is on helping the commercial agriculture industry, but we’re here for everyone.”

Begun in 1988, AgWeatherNet is linked to the research, extension and instruction efforts conducted by the research and extension centers in the WSU College of Agriculture, Human and Natural Resource Sciences.

The department works closely with growers around the state and is always trying to help them better understand the information being communicated.

As a way of staying connected to the people they serve, Loyd and other members of the research team attend up to 20 grower events every year.



Each of the AgWeatherNet stations features a variety of sensors and monitors that collect weather-related information and transmit it to researchers through a solar-powered data logger.

“We try to be service-based,” Loyd said. “We want to educate people, so we cater our discussions to what the group wants. Sometimes it’s just an overview or a seasonal outlook. But we can also get more scientific, depending on the audience.”

The AgWeatherNet service

is intended for everyone, but technological advances have made the network even more valuable in the agricultural community in recent years.

Loyd said the team is always looking to improve the quality of its service by creating new website models and considering more targeted approaches to weather data analysis.

The network is now able to help farmers address disease and pest issues, as well as other environmental concerns.

“We want to stay on the cutting edge so we can provide the best forecasts, but the main goal is to make sure everything is working as well as possible,” Loyd said. “That’s why we go out into the field so much. The whole team feels like we’re here to make people’s jobs easier. We just try to learn as much as we can and pass that on to our users.”

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