

Center to study soil moisture

By Lisa Richardson
Staff Reporter

Two-thirds of the fiscal 1989 budget for the year-old High Plains Regional Climate Center on East Campus will be used to research ways to monitor soil moisture conditions in Nebraska and surrounding states.

The goal of the project is to find the most accurate way to predict soil moisture conditions in the region, said Ken Hubbard, director of the center.

The soil moisture project involves collecting soil moisture readings for different crops in all the member states throughout the growing season. Member states are Nebraska, Iowa, Kansas, Colorado, Wyoming and South Dakota.

The center predicts soil conditions using automated weather stations. The actual and predicted measurements are compared to determine a model for accurately predicting soil moisture conditions without sampling.

A joint U.S. Senate-House of Representatives conference approved a total budget of \$307,000 for the center in mid-December. The final budget is yet to be appropriated.

The rest of the budget will be used to develop types of climate service communications. One

service includes a dial-up system tentatively called AGRIPROD, which will link personal computer owners with valuable climate information, Hubbard said.

Several types of services are being considered, Hubbard said, including information on how weather affects irrigation needs and other climate information relevant to crop production. Hubbard said he hopes to develop indexes for specific crops. Crops may react differently under similar weather conditions.

Different ways to make the system easy to use are also being discussed, Hubbard said.

This month, Hubbard said, he hopes to install a new satellite interface at the Nebraska ETV broadcast station. This will enable them to use the NETV satellite dish to collect National Weather Service data and other data from the remote weather stations. The information will be transferred to the center via modem.

The center, operated by the National Oceanic and Atmospheric Administration, addresses problems common to all member states, Hubbard said. Its goal is to reduce research duplication among the states by organizing research and information.

NU engineers get research grant

NASA, Army funds allow researchers to study space stations

By Tammy Sopinski
Staff Reporter

Electrical engineering professor John Woollam has received research grants from NASA, the Army and many national corporations to research anything from space stations to coatings for computer circuits.

Woollam and his associates are using a recent \$44,492 grant to research the long-term effects of the atmosphere on space stations. Their goal is to find an exterior material that could stay in orbit for long periods of time without breaking apart under the pressures of direct sunlight and oxygen.

The University of Nebraska-Lincoln is one of about 12 colleges in the United States that have the equipment to conduct this research. Many colleges do not use this equipment because it is too expensive, he said. Woollam said it has taken nine years to purchase the equipment, which cost

\$500,000.

NASA is also giving Woollam two other \$50,000 grants. With one grant, from NASA's Space Communications Division, Woollam is researching ways to improve satellite transmissions, including television transmissions.

He shares the third project with assistant professor of electrical engineering Natale Ianno to study super conductivity, which is a broadly expanding field.

The Army and National Science Foundation also awarded two \$60,000 grants. Woollam is studying the deposition of diamond-like carbon on infra-red transmitter material for the Army. He and physics and astronomy professor Dave Sellmyer are researching mega-video optic recording with the NSF grant.

Graduate and undergraduate students work on the project. Woollam said students get hands-on experience

in the lab, which is very useful after graduation.

"It's related to ongoing national problems, which is where they are going to end up working on jobs," Woollam said.

Woollam said he thinks the blend of course work and research strengthens students' education.

"The research process is very interactive with students and faculty learning from each other," Woollam said.

Students write their own reports to grant monitors and attend national meetings. Students gain experience writing theses and share ideas with scientists and students from around the country.

Woollam has also received various grants from BOC, Inc., IBM and Control Data to research computer circuits, discs and coatings.

Woollam came to UNL nine years ago after working at the NASA Lewis Research Center, where he studied super conductivity.

Amendment to mandatory helmet law fails

From Staff Reports

Proponents of a mandatory motorcycle helmet law are one step closer to passage as Nebraska legislators advanced LB428 from select file Wednesday.

Sen. Scott Moore of Stromsburg introduced an amendment to the bill mandating that only motorcyclists under age 19 wear a helmet.

Moore argued that his amendment would be "a logical extension" to motorcycle safety education. After

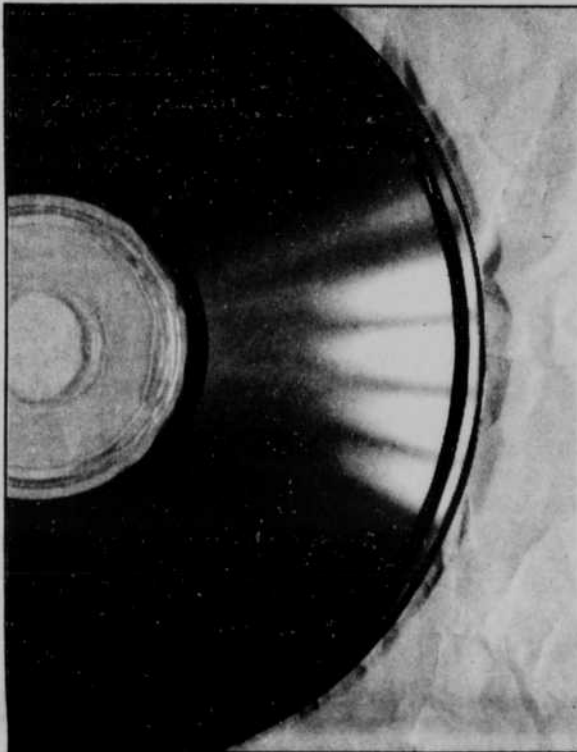
age 19, Moore said, cyclists would have the education to choose to wear a helmet.

The amendment failed 23 to 18.

Sen. Dan Lynch of Omaha, who introduced the bill Jan. 7, said the bill would not have made sense with Moore's amendment.

Lynch urged legislators to pass the bill without amendment or not to pass it at all.

LB428 advanced to Enrollment and Review engrossment, the next step, to be rechecked and reprinted for final reading.



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