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WATER RESOURCES NEWS

NEBRASKA WATER RESOURCES RESEARCH INSTITUTE
212 AGRICULTURAL ENGINEERING BUILDING

THE UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68503

Volume 1 Number 1 May, 1969

This is the first in a series of newsletters to be published monthly by the Nebraska Water Resources Research Institute (NWRRI). The objective of the newletter is to provide timely information on various aspects of the water resources field. Newsletter items and inquiries should be sent to: Dr. Warren Viessman Jr, Director, Water Resources Research Institute, 212 Agricultural Engineering, East Campus.

OBJECTIVES OF THE NWRRI

The Water Resources Research Institute is one of 51 centers established in part by the Water Resources Research Act of 1964. These Institutes were conceived as cooperative ventures between the federal and state governments and were assigned the primary mission of promoting a more adequate national program of water research.

The major objectives of the Nebraska Institute are: (a) To develop and conduct a program of basic and problem-oriented research which will:

(1) be directed towards the recognized research needs of the region.
(2) best utilize the capabilities of available personnel and;
(3) capitalize on the special climatologic, hydrologic, geographic and other attributes of the state.

(b) To identify the most important water related research needs of the state, region, and nation.

(c) To identify university personnel and other scientists who have special competence to undertake worthy research related to significant water resources problems.

(d) To stimulate and coordinate research, training, and other educational activities related to water resources.

(e) To establish an effective system of communications between the Institute and state and federal agencies, industries, educational centers and various other organizations concerned with the water resources of Nebraska. This is fundamental to the effective planning, coordination, and conduct of the research program.

(f) To train water scientists by associating students and faculty with water resources reserach projects, conducting seminars, and promoting interdisciplinary programs of education in the areas of water resources development, planning and management.

(g) To provide advice and assistance on water-related problems in-so-far as it is within the jurisdiction of the Institute.

(h) To assist researchers in preparing competent proposals for securing funding for water resources projects.

(i) To disseminate information on Institute activities to

(1) to disseminate information on Institute activities to University departments, state and federal agencies, other organizations and the public as appears appropriate.

The research programs of the Institute are designed to compliment those now existing and will be coordinated with rather than in competition with, those long-established special programs already developed to an optimum degree.

Some areas of research which are under consideration by the Water Resources Research Institute include the following:

(1) increased productivity of the sandhills
(2) evaporation and transpiration reduction
(3) conjunctive use of water
(4) artificial recharge
(5) improved methods for conveying irrigation water
(6) models for centralization of data collection, analysis, storage and retrieval
(7) waste-water reuse
(8) economics of pollution abatement and recreation
(9) land-water relationships specifically as they affect soil erosion
(10) legal and economic aspects of water importation
(11) ground water quality
(12) relationship of agricultural chemicals to the water quality of surface and ground waters
(13) pollutional aspects of animal feed lots
(14) eutrophication of impounded surface waters

NWRRI FISCAL YEAR 1970 PROGRAM SCHEDULE

1. Title II Research Proposals for F. Y. 71 funding must reach the Institute by September 1, 1969.

2. Title I Matching Grant Proposals for F. Y. 71 must reach the Institute by October 15, 1969.

3. Title I Basic Allotment Project Proposals for F. Y. 71 must be submitted by February 1, 1970.

A publication entitled "General Guidelines and Regulations of the NWRRI" is available from the Director's office upon request. Complete information on preparation of proposals is included. It is suggested, however, that any proposed research be discussed informally with the Director before a written proposal is submitted. This will permit a preliminary evaluation of the compatibility of the proposal with the research objectives of the Institute.

S-1621 RIVER BASINS RESEARCH ACT OF 1969

Introduced by Senator Bayh to provide for additional training and research under the Water Resources Research Act of 1964. The measure, if adopted, would help solve water resources problems in large river basins. Specifically, the act would establish one P. L. 88-379 Institute within each basin as the river basin institute for that basin. Nebraska is located in the Upper Missouri which includes all or parts of eight states.

GROUNDWATER DISTRICT FORMED

The Clay County Groundwater Conservation District petitions have now reached the 60 percent mark required to make the district official. The petitions have been presented to the Clay County Board and a public hearing has been set for June 3. If there are no objections, the district will be declared in existence.

This is the third Groundwater Conservation District formed in the state of Nebraska. The two predecessors are York and Hamilton counties. If the remaining counties of Saline, Fillmore, part of

This is the third Groundwater Conservation District formed in the state of Nebraska. The two predecessors are York and Hamilton counties. If the remaining counties of Saline, Fillmore, part of Seward, and Polk counties show interest in organizing, it is anticipated that the entire area will develop into a regional Groundwater Conservation District.

Groundwater districts have the authority to regulate the amount of groundwater pumped and institute other regulatory measures. It will be interesting to note if this does occur.

PROGRAM FOR THE SECOND EVAPOTRANSPIRATION CONFERENCE

Mid American Water Resources Research Institutes
Second Evapotranspiration Conference
Instrumentation and Working Methods
Nebraska Center for Continuing Education
June 25 - 27, 1969

Sponsored by the Nebraska Water Resources Research Institute and the Department of Horticulture and Forestry

Registration Wednesday June 25 (Nebraska Center) 10-12 N

Session I June 25 (Nebraska Center)
Chairman - Maurice Horton, S. Dakota State University
Instrument developments, data logging and processing for ET research in the region. Regional facilities available or in development. Discussion and demonstrations.

Session II June 25 (Nebraska Center) 8-10pm
Chairman - E. Skidmore, USDA-ARS, Manhattan, Kansas
Speaker - R. J. Hanks, Utah State University
Evapotranspiration Research needs in the Great Plains. Discussion.

Session III June 26 (Mead, Nebraska) 9-4 pm
Chairman - Warren Viessman Jr., Director, WRRI
Tour of University of Nebraska ET Research Facility, Mead. Demonstration of instrumentation and data logging facilities. Demonstration of instrument developments from other stations. Visit to Corps of Engineers, Missouri River Basin Model. Box Lunch.

Evening June 26
Social Hour and Dinner - Legion Club, 57th and O Streets 7-10pm
Lincoln

Session IV June 27 (Nebraska Center)
Chairman - J. F. Stone, Oklahoma State University 9-12pm
Discussion: Coordination of ET research activity in Mid-America; Educational exchanges; Instrument calibration facilities, Expeditionary research.
Summary of Conference Recommendations to Regional Directors.

UNIVERSITIES COUNCIL ON WATER RESOURCES (UCOWR)

The University of Nebraska has recently become the 61st member of UCOWR. This is a voluntary organization of universities actively engaged in education and research in fields related to water resources UCOWR was organized for the purpose of concerted action in whatever ways may seem desirable for the encouragement of such education and research.

LEGISLATIVE COMMITTEE HOLDS HEARING ON NATURAL RESOURCES DISTRICT BILL

The Agriculture and Recreation legislative committee held a hearing on LB1357 on May 1. The bill is basically designed to

The Agriculture and Recreation legislative committee held a hearing on LB1357 on May 1. The bill is basically designed to enlarge and merge various districts which are now organized to cope with some type of soil or water problem. Soil and Water and Watershed Districts of all types will be included. This bill would extend present powers and authorities and vest the new districts with them.

The bill drew some opposition from the Soil and Water Conservation District membership and from certain Watershed Districts. There were many proponents and some opponents. At present, the bill is still in the Agriculture and Recreation Committee.

COUNTY EXTENSION AGENTS TRAINED IN FEEDLOT WASTES MANAGEMENT

The University of Nebraska's front-line field men in the eastern one-fourth of Nebraska are now better equipped to answer livestock producers' questions about feedlot waste management. The topic of waste management, its relation to water resources and the current status of regulation and control was discussed at a county agents' training session held May 6 at the Mead Field Laboratory.

The distinguished speaker for the event was Dr. Paul Geyer, Veterinarian, Federal Extension Service. He discussed the disease aspects of pollution control. Staff members of the Department of Ag. Engineering, Veterinary Science adn Animal Science sponsored the training.

OWRR MATCHING GRANT APPROVED

The NWRRI was recently advised that a matching grant proposal prepared by Dr. Otis E. Cross has been approved. The title of the project is "Animal Waste Utilization for Pollution Abatement - Technology and Economics". The project duration will be two years with a funding level of approximately $120,000. Other professional personnel to be associated with the project include Dr. Leon Chesnin and Dr. A. P. Mazurak of the Agronomy Department and Dr. Glen J. Vollmar, Chairman of the Agricultural Economics Department.

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION FUNDS FOR RESEARCH AND DEVELOPMENT

The Federal Water Pollution Control Administration through the Acting Assistant Commissioner for Research and Development, Dr. David G. Stephan, is making available to interested organizations a statement of funds available under their Research and Development Program at quarterly intervals. It is proposed to break down the available funds into sub-program elements. It should be emphasized the availability of money does not represent priority. The next listing, which will relate to July 1, will include new funds which will become available under the fiscal year 1970 program.

Within its headquarters in Washington, D. C., the FWPCA has various persons as the contact points for different parts of this program. The attached listing shows who should be contacted there in connection with the specific sub-program elements. Also note that FWPCA does not have closing dates for project submission as used to be the case some time ago.

R & D Sub-program

Elements	Name	Elements	Name
1101	W. A. Cawley	1602-1604	A. F. Forziati
1102-1104	W. A. Rosenkranz	1605-1607	H. Gorchev
1105	W. A. Cawley	1608	W. A. Cawley
1106	W. J. Lacey	1609	R. Shull
1201-1212	W. J. Lacey	1610	W. A. Cawley
1301-1305	H. Bernard	1613	H. Gorchev
1401-1405	H. Bernard	1701-1709	W. A. Cawley
1501-1508	H. Bernard	1801-1807	J. F. Allen
1601	H. Gorchev		

1501-1506	H. Bernard	1801-1807	J. F. Allen
1601	H. Borchey		

WATER RESOURCES RESEARCH CATALOG

The NWRRI is currently preparing a catalog of all current water-related research being conducted in Nebraska. This includes, but is not limited to, university research. When the publication is complete, (tentative August 1969), it will include a short abstract, the name of the project leader and the source of funding for each project. The catalog will be available to any interested persons and should be of particular value to those planning water resources research projects.

NWRRI PROJECTS SCHEDULED FOR FUNDING DURING FISCAL YEAR 1970

Project Title	Investigator
Input-Output Analysis of Water Use for Nebraska Industries	Dr. A. W. Epp Dr. Maurice Baker
Brackish Water Purification by Biological Fuel Cell Powered Electrodialysis	Dr. William S. Scheller Dr. Carl E. Georgi
Utilization of Storage Potential of River Valley Aquifers	Professor Ralph R. Marlette
Evaluation of Methods for Improving Water Use Efficiency Through Simultaneous Determination of Field Evapotranspiration and Photosynthesis	Dr. Norman J. Rosenberg
Economic and Technical Aspects of the Use of Mathematical Models in State Water Resources Planning Programs	Dr. W. Viessman Jr.
Physiological and Biochemical Responses of Plants to Different Internal-Water Potentials	Dr. E. J. Kinbacher Dr. Charles Y. Sullivan Dr. Jerry D. Eastin
Conjunctive Use of Ground and Surface Waters	Dr. Richard Harnsberger
Eutrophication of Small Reservoirs in the Great Plains	Dr. Mark J. Hammer Dr. Gary L. Hergenrader
Animal Waste Utilization for Pollution Abatement - Technology and Economics	Dr. Otis E. Cross Dr. G. J. Vollmar Dr. Leon Chesnin Dr. Andrew Mazarak