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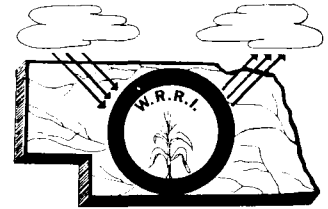
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# WATER RESOURCES NEWS

NEBRASKA WATER RESOURCES RESEARCH INSTITUTE  
212 AGRICULTURAL ENGINEERING BUILDING

THE UNIVERSITY OF NEBRASKA  
LINCOLN, NEBRASKA 68503



Volume 2 Number 4

April 1970

## INCREASED FUNDS FOR STATE WATER RESOURCES INSTITUTE?

Several Bills have been submitted to Congress that would increase State Water Resources Research Institute funds from \$100,000 to \$250,000 per year. Since the original authorization act in 1964 was passed, a substantial increase in research costs and needs has arisen. The proposed Bills would permit programs for the interpretation and dissemination of research findings.

Endorsing the proposed amendments thus far include such educational and scientific organizations as the Universities Council on Water Resources and the National Association of State Universities and Land Grant Colleges.

## BUREAU OF RECLAMATION SEEKS RESEARCH AND DEVELOPMENT

The Bureau of Reclamation is seeking interest from qualified institutions for Research into Evaluation of the Ecological and Environmental Aspects of Planning for Water Resources Development in the United States. Objectives of this proposed research are to comply with National objectives in water resources development planning by developing needed new value systems, criteria procedures, and techniques for evaluating environmental and ecological effects. Those interested should write to Chief Engineer, Code 740, U.S. Bureau of Reclamation, Building 67, Denver Federal Center, Denver, Colorado 80225.

## BUREAU OF RECLAMATION OPENS FACILITIES TO THE NATIONAL SCIENTIFIC COMMUNITY

The Department of the Interior has announced that some of the most advanced and complete water resources engineering research facilities in the world are being made available by the Bureau of Reclamation to the National scientific community. The policy was approved by President Nixon to extend the use and benefit of specialized equipment located at Federal laboratories. Permission to use the equipment will be based on the scientific merit of the proposed investigation, its relation to Reclamation's research mission, and its contribution to national research and to research training.

INTERNATIONAL FIELD YEAR FOR THE GREAT LAKES TO GET UNDERWAY

The International Field Year for the Great Lakes, (IFYGL) is scheduled to begin during calendar year 1972, despite budgetary setbacks. The IFYGL, a joint United States-Canadian undertaking, is a comprehensive program of studies of Lake Ontario, its drainage basin, and the weather over them. The data will be collected by scientists from both countries and then shared through Data Centers established at Detroit and Burlington, Ontario.

Major difficulties for funding the program have arisen in the United States. The IFYGL is almost entirely dependent on funds appropriated by the U.S. Congress, and increased budget-consciousness has forced curtailment of the program.

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION GRANT  
TO HIGH SCHOOL STUDENTS

The FWPCA is launching a training program for junior and senior high school students in water pollution control, announced Secretary of the Interior, Walter J. Hickel. A grant of \$75,714 will start an eventual nationwide program for young students. A total of eighty students and teachers in forty schools will take part in the 1970-1971 program. During the second year of the program, high school biology and science teachers and the students will gain additional experience in field and water laboratory testing techniques.

PRESIDENT'S TASK FORCE ON RURAL DEVELOPMENT ADVOCATES  
MORE SUPPORT OF WATER PROGRAMS

A report of the President's Task Force on Rural Development states: "Whatever is done to develop rural America -- whether rural industry, recreation, housing, transportation, or open space -- it will be built on land and depend on water." Accelerated annual appropriations to develop small watersheds; expand development of water resources for agriculture, industry, municipalities, and recreation; improvements in the reclamation program, and funding for rural water and sewer facilities, are all urged in the report. The report also recommends renovating existing benefit-cost criteria to include "secondary benefits."

WATER POLLUTION CONTROL BILL

President Nixon has signed a bill to authorize grants for water pollution control and set up a scholarship program for the undergraduate study of water pollution control. H.R. 4148, Public Law 91-224.

POSSIBLE INCREASE IN WATER SUPPLY FOR THE WESTERN STATES

Experiments in the chemical engineering laboratories at the University of Colorado could result in increased water supply for the western states. A study of evapotranspiration from living plants on the premise that water wasted through plant leaves into the air might better be used by humans, is directed by Professor Frank Kreith. Supporting the research is the National Science Foundation. If the evapotranspiration rate is reduced by just one percent, the result could be a saving of almost 80 billions gallons of water each year in the western states.

GENERAL ACCOUNTING OFFICE COMMENTS

ON FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

A report on the federal water pollution program by the General Accounting Office, (GAO), says federal government's long and costly effort to clean up the nation's rivers has been hampered by poor planning, inadequate funds, and unchecked industrial pollution. The GAO also states that very little has been done despite the expenditure of \$5.4 billion on waste treatment facilities since 1957. This report was based on a study of eight rivers through the country which were typical of water pollution problems. The agency recommends a new basis for awarding grants be developed and improved planning involving systems analysis techniques to determine the requirements for controlling pollution before more money is spent.

STUDENT-RUN ENVIRONMENTAL RESEARCH PROGRAM SUPPORTED BY NSF

The National Science Foundation has announced it plans to initiate a new program in fiscal year 1971 to support student-initiated, student-planned, and student-directed research, hoping to solve some of our present-day societal problems. The new program, called Student-Originated Studies, will provide support to interdisciplinary groups of students working on problems of the environment -- physical, biological, or social.

Guidelines for proposal preparation for the Student-Originated Studies Program will be available in late May and can be obtained by writing to: Student-Originated Studies, Division of Undergraduate Education, National Science Foundation, Washington, D.C. 20550.

COMMITTEE ON WATER RESOURCES LONG-RANGE RESEARCH PLAN

The Committee on Water Resources is revising recommendations on long-range water resources research, since "A Ten-Year Program of Federal Water Resources Research," was completed in 1965. Thus far, the program has provided a basis for coordinating Federal water resources research activities and is of considerable value to research planners.

Ten important problem areas have been identified:

1. Improving water resources system planning and management processes.
2. Controlling heated water discharges.
3. Controlling sediment.
4. Improving water quality.
5. Meeting increased water supply requirements.
6. Mitigating water-caused damages.
7. Conserving ecologic values in water resource planning.
8. Optimizing metropolitan area water system planning, design, and management.
9. Conserving estuarial water resources.
10. Improving methods for dissemination and application of research findings.

Five specific problems that warrant immediate increased research support:

1. Managing metropolitan area water systems.
2. Improving regional water resource planning and management.
3. Controlling pollution caused by heated water discharges, oil, and sediments.
4. Protecting the public health.
5. Predicting ecologic change.

Researchers take note!

15th ANNUAL MIDWEST GROUND-WATER CONFERENCE

The Conservation and Survey Division of the University of Nebraska and the Water Resources Division of the U.S. Geological Survey are sponsoring the 15th Annual Midwest Ground-Water Conference, to be held November 16-18, 1970 in Lincoln, Nebraska. For further information, contact: Conservation and Survey Division, University of Nebraska, Room 113 Nebraska Hall, Lincoln, Nebraska 68508.

RESEARCH REVIEW

Project Title: "Economic and Technical Aspects of the Use of Mathematical Models in State Water Resources Planning Programs"

Principal Investigator: Dr. Warren Viessman, Jr.

Dates: July 1, 1969 to June 30, 1970

The need to increase the emphasis on developing sound long-term water resources planning efforts which can adequately assess the alternatives available for plan formulation is obvious. To accomplish this, it will be necessary to make increasing use of the modern mathematical tools being developed. This will require a careful evaluation of the economic and technologic impact of the use of such tools by state water resources planners. The proposed research is designed to provide proper guidelines for developing an effective mathematical modeling program to compliment existing state water resources planning efforts. The significance of such a study will be of national value.

NEW PUBLICATIONS RECEIVED BY THE INSTITUTE

1. "1968 Annual Report of the Chief of Engineers on Civil Works Activities," Department of the Army, Corps of Engineers, Volume 1, For Fiscal Year Ended June 30, 1968.
2. "Hydrogeology of the Rio Grande Valley and Adjacent Intermontane Areas of Southern New Mexico," by W.E. King, J.W. Hawley, A.M. Taylor, & R.P. Wilson, New Mexico State University, June 1969.
3. "Streamflow Generating Techniques: A Comparison of Their Abilities to Simulate Critical Periods of Drought," by A.J. Askew, W. Yeh, & W.A. Hall, University of California, January 1970.
4. "Computerized System for Wyoming Surface Water Records," by P.A. Rechar, W.N. Embree, & L.W. Larson, University of Wyoming, September 1968, Revised January 1970.
5. "Water Resource Observatory Climatological Data Water Year 1969," by University of Wyoming, January 1970.
6. "Marginal Value of Irrigation Water and a Case Study of Transfer in Southeastern Wyoming," by J.N. Sorensen & R.T. Clark, University of Wyoming, January 1970.
7. "Water Transfer From Soil to the Atmosphere as Related to Climate and Soil Properties," by C.W. Wendt, Texas A & M University, February 1970.
8. "A Study of Selected Chemical and Biological Conditions of the Lower Trinity River and the Upper Trinity Bay," by R.J. Baldauf, Texas A & M University, February 1970.

9. "Evaluation of Resource Use and Economic Effects Due to Irrigation Water Availability in Texas," by F.A. Schmer & W.L. Trock, Texas A & M University, August 1969.
10. "Requirements for Effective Use of the Water Resources Scientific Information Center (WRSIC) - Determined by Field Evaluation," by E.B. Smith, J.B. Herbich, & J.D. Benson, Texas A & M University, Volume III, November 15, 1969.
11. "Inventory of Water Quality Records, Nebraska," U.S. Geological Survey, Lincoln, Nebraska, 1970.
12. "Vertical and Horizontal Distribution of Phytoplankton in Quabbin Reservoir," by P.A. Erickson & J.T. Reynolds, University of Massachusetts, December 1969.
13. "Arkansas-White-Red Rivers System Conservation Studies," U.S. Army Corps of Engineers, April 1970.
14. "A Study of the Economic Impact of Water Impoundment Through Validity Testing of a Comparative-Projection Model," by J.E. Pearson & K.E. Heideman, Texas A & M University, August 1969.
15. "Phosphorus Concentrations in the Pamlico River Estuary of North Carolina," by J.E. Hobbie, University of North Carolina, March 16, 1970.
16. "Proceedings: Pollution Research Symposium," University of Nebraska, May 23, 1969.
17. "Research Reports," Supported by Office of Water Resource Research Under the Water Resources Research Act of 1964, July 1969 - March 1970.
18. "Unsteady Flow of Dilute Aqueous Polymer Solutions in Pipe Networks - A Method to Improve Water Distribution," by H.C. Jackson & P.G. Mayer, Georgia Institute of Technology, January 1970.
19. "A Comprehensive Water and Related Land Resources Plan for the State of Nevada," State of Nevada, Department of Conservation and Natural Resources, January 1969.
20. "An Engineering Economic Study of the Industrial Growth Potential of the Upper Passaic River Basins," by A. Lesser, Jr., A.H. Spinner, & M.A. Tirabassi, Stevens Institute of Technology, New Jersey.
21. "Predicting Future Growth of Organic Pollution in Metropolitan Area Rivers," by M. Marcus & W. Whipple, Jr., Rutgers State University, February 1970.
22. "Hydrology of a Small Rural Watershed Under Suburban Development (Phase I)," K. Nathan, G.H. Nieswand, & A.J. Esser, Rutgers State University, March 1970.
23. "The Chemical Nature of the Organic Matrix Believed to Limit Water Penetration in Granitic Soils," by R.J. Morris & M. Natalino, University of Nevada, July 1969.
24. "Participation in Water Based Recreation by Tourists," by G.A. Myles, University of Nevada, September 1969.
25. "Florida's Environmental Engineering Conference on Water Pollution Control," Gainesville, Florida, March 26-28, 1969.

26. "Water Studies in Oregon," Seminar Conducted by Oregon State University, Fall 1969.
27. "Future Use of the Chesapeake Bay for Cooling Thermal Discharges," Seminar Report, The Johns Hopkins University, July 1969.
28. "Algal Growth and Decomposition: Effects on Water Quality Nutrient Uptake and Chemical Composition of Algae in Batch Culture," by E.G. Foree, University of Kentucky, March 1970.
29. "Non-Metropolitan Dense Rainage Networks," by L.S. Tucker, American Society of Civil Engineers, January 1970.
30. "Environmental and Technical Factors for Open Drainage Channels in Milwaukee," by T.B. Prawdzik, American Society of Civil Engineers, February 1970.
31. "Availability of Rainfall-Runoff Data for Partly Sewered Urban Drainage Catchments," by L.S. Tucker, American Society of Civil Engineers, March 1970.
32. "Annual Report - Washington," July 1, 1968 to June 30, 196

NEWSLETTER ITEMS

Newsletter items and inquiries should be sent to: Dr. Warren Viessman, Jr., Director, N.W.R.R.I., 212 Agricultural Engineering Building, East Campus, Lincoln, Nebraska 68503.