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WATER RESOURCES NEWS

NEBRASKA WATER RESOURCES RESEARCH INSTITUTE
212 AGRICULTURAL ENGINEERING BUILDING

THE UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68503

Volume 3 Number 2 February 1971

AG. ENGINEERING STUDENT SELECTED FOR INSTITUTE OF WATER RESOURCES PLANNING ANALYSIS AND REVIEW STUDY

Gary A. Frecks, graduate student in Ag. Engineering, has been chosen (selected nationally) as one of twenty students who will work in 2-men teams with experienced Corps of Engineers water resources planners to determine the existing level of data collection and use in civil works decision making processes. Students selected will visit the Corps' Division Office and the Chief of Engineers Office in Washington, D.C. as part of their program. They will also be required to complete a written research report describing the findings of the study. The work will be conducted under the overall direction and guidance of the Institute for Water Resources of the Corps of Engineers.

CROSS-FLORIDA BARGE CANAL WORK STOPPED

Representatives of the Council on Environmental Quality (CEQ) and of the Chief of Army Engineers were in Florida recently touring the site of the Cross-Florida Barge Canal, which was stopped by President Nixon. The President asked CEQ and the Corps to develop "recommendations for the future of this area." The 107-mile canal, which would have provided a 12-foot barge route across north Florida, was about one-third completed. The President said further work would seriously endanger fish and wildlife and the scenic Oklawaha River:

"The purpose of the canal was to reduce transportation costs for barge shipping. It was conceived and designed at a time when the focus of Federal concern in such matters was still almost completely on maximizing economic return.*** The step I have taken today will prevent a past mistake from causing permanent damage. But more important, we must assure that in the future we take not only full but also timely account of the environmental impact of such projects -- so that instead of merely halting the damage, we prevent it."

CONTROVERSY OVER PRESIDENT'S DECISION

Reaction to the President's decision on the Florida canal were not long in coming. Militant conservationist Joe Browder of Friends of the Earth, Inc. said, "We're just ecstatic. The values that were used to make this judgement now must be used on every waterway in America." The New York Times applauded the decision and commented: "The President is apparently beginning to realize -- and it is high time that Congress recognized -- that the American people are becoming increasingly fed up with the expensive, boondoggling, make-work, environmentally destructive projects that to a large degree characterize the civilian activities of the Army's Corps of Engineers."

Th Engineering News Record expressed another view: "This combination of false economy and ecological bullheadedness borders on the ludicrous." Florida congressmen immediately asked the President not to consider the project terminated until further study is complete. The request was made at a meeting with former Congr. Clark MacGregor, Minnesota, the President's congressional liaison man. Mr. MacGregor said the President does not have a closed mind on the subject, but the fact still remains that the project -- for the time being at least - is apparently dead.

EPA TELLS HOW TO REDUCE HOUSEHOLD WASTEWATERS

The homeowner or developer can now acquire a 154-page manual detailing practical means of reducing the volume of wastewaters derived from an ordinary household for $1.25. To obtain copies write to the Supt. of Documents, Washington, D.C. 20402 and ask for "A Study of Flow Reduction and Treatment of Waste Water From Household," Program 11050 FKE.

Homeowners, plumbers, architects-engineers, and equipment manufacturers have contributed to the manual which was prepared by Electric Boat Division, General Dynamics Corp., Groton, Connecticut. Recommendations include: (1) the use of flow control faucets (new homes only); (2) the use of flow control showers; (3) the redesign of toilet bowls to allow adequate flushing with less water; (4) the use of siphon types of water closets; (5) development of a suitable, lower cost disinfectant to render the chemical recycle toilet more efficient; (6) installation of a system for recirculating water used in toilet flushing, (in areas of poor soils); and (7) aerobic treatment in areas of poor soils (aerated treatment tank as opposed to a subsubface disposal system.)

1971 SUMMER INSTITUTES PLANNED

The Water Resources Research Institute will sponsor two one-week Summer Institues to be held at the Nebraska Center for Continuing Education in July 1971. See next page for more details.

INSTITUTE I

Title: "Optimal Analysis of Water Resources Systems"

Date: July 18 - 23, 1971

Objective: To provide in-depth training in the application of mathematical programming techniques to the analysis, design, operation, and planning of water resources systems. Topics to be discussed include: economic aspects of water resources systems; linear programming; and non-linear programming. The course will present the basic theory underlying each of these approaches, and then fully develop the use of the approach with valid examples of applications to realistic water resources problems. Primary emphasis will be given to application.

Staff: Dr. Marshall Gysi, Assistant Professor of Civil Engineering, University of Nebraska

Dr. David H. Marks, Assistant Professor of Civil Engineering, M.I.T.

Dr. Jon C. Liebman, Associate Professor of Environmental Engineering, Johns Hopkins University

INSTITUTE II

Title: "Simulation of Water Resources Systems"

Date: July 25 - 30, 1971

Objective: To provide in-depth training in the development and use of simulation models for application to a wide variety of water resources systems. Topics to be discussed include: probability theory; generation of hydrologic data; numerical methods; simulation model structuring and operation; interpretation of output; and digital simulation of groundwater systems. The course will be organized to present the basic theoretical elements needed to conceptualize and develop adequate simulation models and on how to interpret the output of these models. Primary emphasis will be on application.

Staff: Dr. John W. Knapp, Professor and Head of Civil Engineering, Virginia Military Institute

Dr. Terence E. Harbaugh, Associate Professor of Civil Engineering, University of Missouri at Rolla

Staff continued

Dr. Frank E. Perkins, Associate Professor of Civil Engineering, M.I.T.

Dr. E. Allen Breitenbach, President, Scientific Software Corporation, Denver Technological Center

The courses will include a series of lectures with opportunities for discussion and individual work. The University Computer Center will be available to participants.

Fee is $320 per person plus room and board before July 1 and $350 thereafter. A special fee for those interested in attending both weeks will be $400 before July 1 and $450 thereafter. Please note that in order to provide adequate opportunities for use of computer facilities and more efficient instruction, the attendance will be limited. Early enrollment is urged.

For additional information, please write to:

Dr. Warren Viessman, Jr., Director
Nebraska Water Resources Research Institute
University of Nebraska
212 Agricultural Engineering
Lincoln, Nebraska 68503

REORGANIZATION PROPOSALS WOULD AFFECT CORPS' PLANNING FUNCTION

The Administration's plan to reshuffle the Executive Branch of the Federal government could vitally affect the Corps of Engineers' water resources programs. The reshuffling would reduce the 12 existing cabinet-level departments to eight. Press reports indicate the proposed new Department of Natural Resources would take over the planning function of the Corps, however, details of the Administration's plans have not been officially released.

White House aide Andrew Rouse explained the Administration's rationale in a memo stating: "The Bureau of Reclamation, the Corps of Engineers, and the Soil Conservation Service are each involved in water development projects. It is not uncommon for the three agencies to complete projects on the same river such that the project of one interferes with the effect of the project of the other." However, several congressional leaders have predicted that the President will have a tough time getting congressional approval.

POPULATION AND PRODUCTION

League of Women Voters water resource publications are valuable references for anyone dealing with

public education in this field. Prominent publications include: Who Pays For A Clean Stream; Where Rivers Meet the Sea; and So You'd Like To Do Something About Water Pollution. A new publication which will be of interest is Population + Production = Pollution. This points out that pollution is not so much a water problem as it is a people problem. It describes the complex water pollution problems caused by growing numbers of people demanding increasing varieties of industrial and agricultural products.

Copies are available by ordering from the League of Women Voters, 1730 M Street, N.W., Washington, D.C. 20036, at the following prices (must be prepaid):

Who Pays for a Clean Stream, 25¢/copy

Where Rivers Meet the Sea, 50¢/copy

So You'd Like To Do Something About Water Pollution, 30¢/copy

Population + Production = Pollution, 25¢/copy

Volume discounts are 10 percent for 10-49 copies, 15 percent for 50-499 copies, and 20 percent for 500-999 copies.

WATER NEEDS INCLUDED IN STUDY OF NATION'S RAW MATERIALS

Sen. Stuart Symington, Missouri, a long-time supporter of water resource programs, has urged the Department of Commerce to include water needs in a forthcoming study of the Nation's raw materials and supplies through the year 2000. "In that water is our No. 1 natural resource, and supplies are extremely limited, a comprehensive study of our water needs should be a priority task of this study," he said.

THIRD INTERNATIONAL SEMINAR FOR HYDROLOGY PROFESSORS AT PURDUE

The Third International Seminar for Hydrology Professors will be held at Purdue University, Lafayette, Indiana from July 18 through 30, 1971. The theme of this two-week seminar is "Biological Effects in the Hydrological Cycle -- Terrestrial Phase." Around 25 speakers from all parts of the United States and from various disciplines have been engaged to speak at the seminar sessions. Sponsorship will be primarily by the National Science Foundation and Unesco.

This seminar will be the third in a series th
at the University of Illinois under Dr. V. T. Chow. In 1970, the second seminar was held at Utah State University. As with these seminars, participants for the third seminar at Purdue will be selected on an international basis mainly from universities with ongoing programs in hydrology. However, some specialists from government planning agencies and research may also qualify. Partial or full reimbursement for travel and per diem expenses will be made to the selected participants.

For a descriptive brochure and an application form, write to: Dr. E. J. Monke, Director, Third International Seminar for Hydrology Professors, Department of Ag. Engr., Purdue University, Lafayette, Indiana 47907.

NEW PUBLICATIONS RECEIVED BY INSTITUTE - FEBRUARY

1. "A General Analysis of Economic Characteristics of Areas Affected by the Texas Water Plan," V. T. Clover, Texas Tech. University, 1970.

2. "Optimizing Lipid Biostablization," U.S. Department of the Interior, Federal Water Quality Administration, W. Garner, May 1970.

3. "The Development of A Fluidized-Bed Technique for the Regeneration of Powdered Activated Carbon," U.S. Department of the Interior, Federal Water Quality Administration, March 1970.

4. "Mathematical Model of the Electrodialysis Process," K. T. Pruyn, J. J. Harrington, J. D. Smith, U.S. Department of the Interior, Federal Water Quality Administration, July 1969.

5. "Advanced Wastewater Treatment Using Powdered Activiated Carbon in Recirculating Slurry Contactor-Clafifers," C. F. Garland, R. L. Beebe, U.S. Department of the Interior, Federal Water Quality Administration, July 1970.

6. "Granular Carbon Treatment of Raw Sewage," C. B. Hopkins, W. J. Weber, Jr., R. Bloom, Jr., U.S. Department of the Interior, Federal Water Quality Administration, May 1970.

7. "Ultrafiltrative Dewatering of Spent Powdered Carbon," U.S. Department of the Interior, Federal Water Quality Administration, C. W. Desaulniers, R. W. Hausslein, March 1970.

8. "Basic Salinogen Ion-Exchange Resins for Selective Nitrate Removal From Potable and Effluent Waters," A. L. Walitt, H. L. Jones, U.S. Department of the Interior, Federal Water Quality Administration, December 1969.

9. "Shading Inverted Puranometers and Measurements of Radiation Reflected from an Alfalfa Crop," K. W. Brown, N. J. Rosenberg, P. C. Doraiswamy, University of Nebraska, December 1970.

10. "The Macrobenthos of the Pamlico River Estuary, North Carolina," K. R. Tenore, North Carolina State University, University of North Carolina, September 1, 1970.

11. "Annual Report FY 1970," University of North Carolina, North Carolina State University.

12. "Evalution of Selected Earth Moving Equipment for the Restoration of Oil-Contaminated Beaches," U.S. Department of the Interior, Federal Water Pollution Control Administration, October 1970.

13. "The National Water Commission Annual Report for 1970," Washington, D.C., December 31, 1970.

14. "An Electrochemical Method for Removal of Phosphates From Waste Waters," U.S. Department of the Interior, Federal Water Quality Administration, February 1970.

15. "Complex Systems Analysis of Water Quality Dynamics: The Feedback Systems Structure," J. E. Knight, W. W. Hines, Georgia Institute of Technology, September 1970.

16. "Prediction of Solar and Atmosphere Radiation for Energy Budget Studies of Lakes and Streams," W. C. Huber, A. I. Perez, University of Florida, October 1970.

17. "Research Reports supported by Office of Water Resources Research Under the Water Resources Research Act of 1964," July - December 1970.

18. "Water Quality Criteria For Selected Recreational Uses," D. W. Bishop, R. Aukermann, University of Illinois, September 1970.

19. "Hydraulic Geometry of 12 Selected Stream Systems of the United States," J. B. Stall, Chih Ted Yang, University of Illinois, July 1970.

20. "Microscopic Open Channel Boundary Layer Velocity Measurement Using a Virtual Image Method," H. G. Wenzel, Kuo C. Chang, University of Illinois, April 1970.

21. "Sixth Annual Report," Fiscal Year 1970, Auburn University, J. C. Warman, Director.

22. "Bacteria, Carbon Dioxide, and Algal Blooms," L. E. Kuentzel, Wyandotte, Michigan, 1969.

23. Reprinted from the "Proceeding of the National Symposium on Hydrobiology - 'Bioresources of Shallow Water Environments'," W. G. Wesit, Jr., P. E. Greeson, University of Miami, June 24-27, 1970.

24. "Electrical Effects and the Movement of Water in Soils," D. Swartzendruber, S. Gairon, Purdue University, July 1970.

25. "Manpower Supply in Wastewater Treatment Plants," L. N. Smith, W. L. Miller, Purdue University, August 1970.

26. "Computer Oriented Stability Analysis of Reservoir Slopes," R. K. Carter, C. W. Lovell, Jr., M. E. Harr, Purdue University, January 1971.

27. "An Assessment of Optimization Techniques as Applied to Water Resource Systems," J. A. Dracup, F. Mobasheri, M. A. Cardenas, August 1970.

28. "Membrane Materials For Waste Water Reclamation By Reverse Osmosis," U.S. Department of the Interior, Federal Water Quality Administration, A. S. Douglas, M. Tagami, C. E. Milstead, June 1970.

29. "Feasibility Study of Mining Coal in an Oxygen Free Atmosphere," U.S. Department of the Interior, Federal Water Quality Administration, August 1970.

30. "Treatment of Acid Mine Drainage," U.S. Department of the Interior, Federal Water Quality Administration, December 1970.

31. "Electroosmotic Pumping For Dewatering Sewage Sludge," J. Greyson, U.S. Department of the Interior, Federal Water Quality Administration, July 1970.

32. "Neutralization of High Ferric Iron Acid Mine Drainage," R. C. Wilmoth, R. D. Hill, U.S. Department of the Interior, Federal Water Quality Administration, August 1970.

33. "Engineering Feasibility Demonstration Study for Muskegon County, Michigan, Wastewater Treatment-Irrigation System," U.S. Department of the Interior, Federal Water Quality Administration, September 1970.

34. "Combined Sewer Temporary Underwater Storage Facility," U.S. Department of the Interior, Federal Water Quality Administration, October 1970.

35. "Hydrology of Limestone Terranes - Part B," J. L. Sonderegger, J. C. Kelley, University, Alabama, 1970.

36. "Hydrology of Limestone Terranes - Part C," J. L. Sonderegger, University, Alabama, 1970.

37. "Application of Hyperfiltration to Treatment of Municipal Sewage Effluents," U.S. Department of the Interior, Federal Water Quality Administration, January 1970.

38. "Santa Barbara Oil Pollution, 1969," Water Pollution Control Research, U.S. Department of the Interior, October 1970.

39. "A Study of Nitrification and Denitrification," B. J. Mechalas, P. M. Allen, III, W. W. Matyskiela, Federal Water Quality Administration, July 1970.

40. "Annual Report 1970 - Resources for the Future, Inc.," December 1970.

41. "Frequency of Potential Evapotranspiration Rates in the Central Great Plains," N. J. Rosenberg, Invitational Paper for Presentation to American Society of Civil Engineers, Natural Water Resources Meeting, January 11-15, 1971, Phoenix, Arizona.

42. "Exchange of Diquat in Soil Clays, Vermiculite, & Smectite," J. B. Dixon, D. E. Moore, N. P. Agnihotri, & D. E. Lewis, Jr., reprinted from the 'Soil Science Society of American Proceedings', September-October 1970.

43. "Reverse Osmosis Renovation of Municipal Wastewater," U.S. Department of the Interior, Federal Water Quality Administration.

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.