

# ARIZONA WATER RESOURCES NEWS BULLETIN

NEWS BULLETIN 74-6

NOVEMBER-DECEMBER 1974

## "WRSIC" ABSTRACT SERVICE NOW AVAILABLE AT UNIVERSITY OF ARIZONA

The Water Resources Scientific Information Center (WRSIC) bibliographic data base is now available for retrieval on the Atomic Energy Commission's RECON system through the University of Arizona, which is the fifth terminal station in the Office of Water Research and Technology (OWRT) network. States being served by the University of Arizona are Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, and Washington.

This WRSIC bibliographic base covers water related aspects of the Life, Physical, and Social Sciences, as well as the engineering and legal aspects of the characteristics, conservation, control, use, and management of water resources.

The file of over 60,000 abstracts dates back to 1969. Bibliographic searches can be made by specifying author, keywords, or the WRSIC category code.

The keywords used come from the *Water Resources Thesaurus, Second Edition, 1971*. The use of WRSIC's *Water Resources Thesaurus* is recommended for narrowing searches to provide more precise output. Assistance on this is available for those who have not had experience in the use of the Thesaurus.

### Instructions for Using the No-Cost WRSIC Abstract Service

**1. What Kind of Information Does a Search Provide? —** Each WRSIC abstract record consists of the information shown in Exhibit A. All or any part of the record can be produced in answer to an inquiry. Unless otherwise requested, the entire record will be sent to the requester.

**2. What Is the Scope of Information in the WRSIC Data Base? —** The scope of information available is indicated by Exhibit B, an outline of water resource categories which corresponds to the Table of Contents of OWRT/WRSIC's publication, *Water Resources Abstracts*. Input to the data base comes from a wide range of sources, including: federal water agencies, the WRSIC-supported "centers of competence" in specific subject areas, established discipline-oriented abstracting and indexing services, the 53 Water Resources Research Institutes, and the grantees and contractors of OWRT and other Federal agencies.

**3. How Can You Request a Search of the Data Base? —** An inquiry should be sent to your respective State Water Resources Institute or (in Arizona):

Water Information Section  
 Water Resources Research Center  
 University of Arizona  
 Tucson, Arizona 85721  
 Phone (602) 884-2816

Telephone queries will also be accepted, provided the caller supplies all information indicated on the following Inquiry Form.

### WRSIC COMPUTER NETWORK INQUIRY

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Affiliation \_\_\_\_\_

Order Number \_\_\_\_\_

State the problem or question fully. Circle the words or concepts which you consider most important. Underline terms you consider of secondary importance. EXAMPLE: What information is available to describe the effects of groundwater recharge on water quality parameters such as *fluorides*, *nitrates*, and *soluble salts*.

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Other comments or considerations: \_\_\_\_\_

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## Exhibit A

**Title** – The Study of Local Waters in the Deserts of the USSR.

**Source** – Institute of Geography, Moscow, and Desert Institute, Ashkhabad.

**Author** – V.N. Kunin.

**Citation** – Soviet Geogr Rev and Transl, Vol. 9, No. 6, pp. 469-488, June 1968. 20 pp., 67 ref.

**Descriptors (keywords\*)** – \*Water supply, groundwater, artesian water, water management (applied), water resources development, irrigation, \*deserts, \*surface-groundwater relationships, irrigation water, runoff, recharge, water storage.

**Identifiers** – \*USSR, Central Asian Deserts, Takysr.

**Abstract** – The local freshwater sources of the deserts of the USSR are reviewed to determine suitability for stock, domestic and industrial uses. One of the most promising sources is the collection of runoff from claypans (Takysr) for artificial recharge of permeable beds. This has been used for hundreds of years for stock water supplies and works with water tables as deep as 30-35 M in the Kara Kum. A flock of 1,000 sheep requires 50 to 100 SQ KM of grazing land which can be supplied with water by a claypan watershed of 0.3 SQ KM or less. Artificial catchments are even more effective. Groundwater in much of the desert area is too saline for stock use. Fresh groundwater lies over saline water in lenses in the Kara Kum and other deserts and provides only small supplies locally although the regional total volume of water is large. Use of the proper well arrays helps prevent saline intrusion. Artesian waters are usually not fresh enough for stock use, and often even when fresh are not the most economical source. (KNAPP-USGS)

**WRSIC Subject Code** – Field 04B.

**WRSIC Identifying Number** – Accession No. W68-00664.

## Exhibit B

### Definitions of Water Resources Research

**Nature of Water** – Properties of Water; Aqueous Solutions.

**Water Cycle** – General studies; precipitation; snow, ice and frost; evaporation and transpiration; streamflow; groundwater; water in soils; lakes; water and plants; erosion and sedimentation; chemical processes; estuarine problems.

**Water Supply Augmentation and Conservation** – Saline water conversion; water yield improvement; use of water of impaired quality; conservation in domestic use; conservation in industry; conservation in agriculture.

**Water Quantity Management and Control** – Control of water on the land; groundwater management; effects of Man's related activities on water; watershed protection.

**Water Quality Management and Protection** – Identification of pollutants; sources and fate of pollution; effects of pollution; waste treatment processes; ultimate disposal of wastes; water treatment; water quality control.

**Water Resources Planning** – Techniques of planning; evaluation process; cost allocation, cost sharing, pricing and repayment; water demand; water law, institutional problems; nonstructural alternatives; ecologic impact of water development.

**Resource Data** – Network design; instrumentation, data acquisition; evaluation, processing and publication.

**Engineering Works** – Design; materials; construction and operation.

**Manpower, Grants, and Facilities** – Education-extramural; Education-In House, research facilities; grants, contracts and research act allotments.

**Scientific and Technical Information** – Acquisition and processing; reference and retrieval; secondary publication and distribution, specialized information center services; translations, preparation of reviews.

## NEW WATER RESEARCH PROJECTS

Three additional water resources research projects have been approved for funding during FY 1974-75 under a supplemental appropriation by the Office of Water Research and Technology, U.S. Department of the Interior, according to Director Sol Resnick of the University of Arizona Water Resources Research Center.

The additional projects, along with the Principal Investigators and their departmental and organizational affiliation are as follows:

A-061-ARIZ: *Development and Evaluation of Improved Films for Suppressing Water Evaporation.* Dr. Castle O. Reiser, Chemical Engineering, Arizona State University.

A-059-ARIZ: *Development of Asphalt Cushioned Plastic and Plastic Reinforced Asphalt Membranes for Seepage Control.* R.A. Jimenez, Civil Engineering; and C.B. Cluff, Water Resources Research Center, University of Arizona.

A-060-ARIZ: *Estimation of Mixing in Aquifers by Temperature Distribution.* D.M. McEligot, Aerospace and Mechanical Engineering; and E.S. Simpson, Hydrology and Water Resources, University of Arizona.

## NEW STATE GRANT FORMULA FOR WATER PLANNING

A change has been announced in the formula used to compute water and related land planning grants to states. The grants are provided in accordance with Title III of the Water Resources Planning Act of 1965, Public Law 89-80.

The new formula requires more coordination with all federal, state, and local agencies and nongovernmental entities during planning activities. The planning process will include full consideration of existing and perspective demands for water and related land resources with more emphasis on state program needs. Copies of the new formula, as printed in the "Federal Register" (Vol. 39, No. 171, Sept. 3, 1974), are available on request from the Water Resources Council, Washington, D.C. 20037.

## REGULATIONS FOR WATER QUALITY MONITORING

The Environmental Protection Agency (EPA) has proposed a set of regulations for nationwide "Water Quality and Pollutant Source Monitoring" (Federal Register, Vol. 39, No. 168, August 28, 1974). States will not remain eligible for financial assistance under the Federal Water Pollution Control Act unless they set up monitoring programs for both surface water and groundwater in accordance with the regulations.

The proposed regulations are designed to meet the requirements of the Act, which call upon states to establish and operate appropriate devices, methods, systems, and procedures necessary to monitor and to compile and analyze data on the quality of navigable waters, and to the extent practicable, groundwaters.

Initial designation of principal groundwater aquifers based on existing and updated data must be completed by fiscal year 1975. After the aquifers have been designated, statewide groundwater monitoring programs consisting of a network of groundwater quality monitoring stations must be established and sampled in a systematic manner.

An inventory of existing wells which may be suitable for a statewide groundwater monitoring network must be developed by April 15, 1976, and will be updated as additional wells are selected or installed. An inventory of pollution sources must also be monitored. Some of the sources to be monitored include injection wells, sanitary landfills, chemical stockpiles, municipal and industrial waste lagoons, waste holding ponds, and sludge drying beds.

William H. Shafer Jr., P.E., of the Arizona State Department of Health Services, has been given the responsibility of carrying out the monitoring program in Arizona.

## PUBLICATIONS RELEVANT TO ARIZONA AVAILABLE

In August 1974, Dames and Moore released another Engineering Bulletin entitled *Remote Sensing, Environmental and Geotechnical Applications*. The report was published at the Executive Offices, Suite 3500, 445 South Figueroa Street, Los Angeles, California 90017.

A number of the most commercially useful techniques of remote sensing are introduced in the new bulletin. Included are brief descriptions of the sensors which gather the data, and a discussion of some of the environmental and geotechnical areas which have benefited from the use of remote-sensing technology.

*More Water for Arid Lands: Promising Technologies and Research Opportunities* was recently published by the National Academy of Sciences, Washington, D.C.

The report deals with water supplies and water conservation in arid lands, and is summarized in Arabic, French, and Spanish. It contains a number of contributions by University

of Arizona researchers and is being given nationwide and worldwide library distribution by the U.S.D.A. and the U.N. Food and Agriculture Organization. Copies are available through the Commission on International Relations (JH215), National Academy of Sciences, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418, U.S.A.

*Report on Water Supply; Fort Huachuca and Vicinity, Arizona; Appendixes* was published on March 29, 1974, by the U.S. Army Engineer District, Corps of Engineers, Los Angeles. The one-volume report is composed of four appendixes entitled:

1. Consultant's Report on Water Development.
2. Arizona Water Commission's Status Report of a Study of the Adequacy of the Water Supply of the Fort Huachuca Area.
3. Concept Design Report for Proposed Water System Expansion.
4. Test Well Drilling and Study of Hydrogeologic Conditions.

## EMPLOYMENT OPPORTUNITIES

Watershed management positions for periods of 2 months to 2½ years are available in Iran. For additional information, send an inquiry to Project Manager, Watershed Management Project, Box 1555, Tehran, Iran.

Please address your news items or comments on the News Bulletin to any of the four editors:

Phil Briggs, Arizona Water Commission, Suite 800, 222 North Central Avenue, Phoenix, Arizona 85004.

Jim DeCook, Water Resources Research Center, University of Arizona, Tucson, Arizona 85721.

Ken Foster, Office of Arid Lands Studies, University of Arizona, Tucson, Arizona 85719.

Rich Herbert, Water Resources Research Center, University of Arizona, Tucson, Arizona 85721.

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