

# WRC NEWSLETTER

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WATER RESOURCES CENTER, TEXAS TECH UNIVERSITY, LUBBOCK, TX 79409  
(806)742-3597

## Cataloging of Playa Basins Begun

Dr. Tony R. Mollhagen, Environmental Science Lab and Dr. Ernest B. Fish, Department of Range and Wildlife Management are proposing to catalog playa basins of the High Plains. The two short-term objectives for this project are:

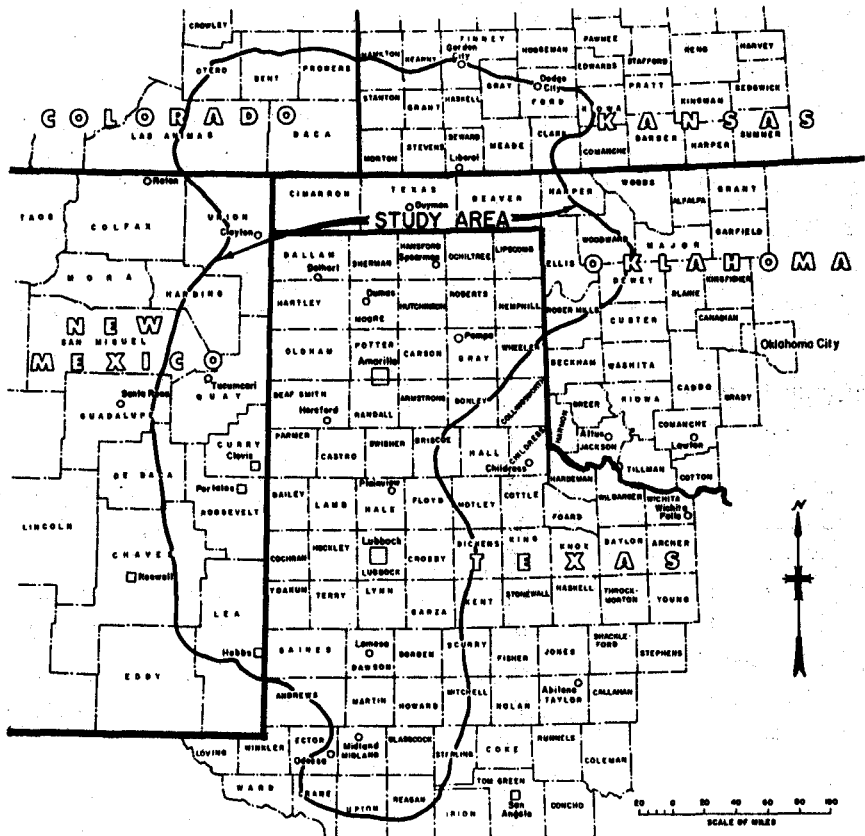
- to digitize the location of every playa basin in the region from 7.5 minute quadrangle maps.
- to assign to each basin a unique catalog number (based on the longitude and latitude) that eventually will serve as an index for sorting basin-specific attributes.

Both of these objectives are requisite first steps in the development of a Geographical Information System (GIS) for playas.

The work is nearly complete for the Llano Estacado, the playa lake region south of the Canadian River. The numbering and digitizing of over 1,000 quadrangles that will result in catalog numbers was completed by Ms. Dianne Hall, a Ph.D. student in Biology, Ms. Kavitha Casula, an M.S. student in Civil Engineering, and Ms. Kristi Cleveland, a senior Engineering Physics major. The investigators are presently seeking funding to continue the work into the playa

lake regions of Colorado, Kansas, Oklahoma, New Mexico and Texas, between the Canadian and Arkansas rivers.

Playa basins are common features of the semi-arid landscape of the Great Plains Region of the United States. They occur as far north as



Playa Lakes Region as defined by the U.S. Bureau of Reclamation. The proposed work includes a catalog of playa basins in the northern half of the region. The catalog for the southern half of the region is nearly completed.

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*Catalog of Playa Basins*

## WRC Salutes Recent Graduates

The Water Resources Center staff would like to extend a hearty CONGRATULATIONS to students who have recently completed their graduate degrees. The following students have been either partially or fully supported during their graduate studies either directly through Water Resources Center research projects or indirectly under projects managed by the WRC.

Name	Degree	Report/Thesis
Steve Martin	MSCE	Hazardous Waste Incineration
Lakshmi Reddy	MSCE	Monitoring Ground Water Table Soil Moisture and Temperature in Area 13B Lubbock Lake Site, Lubbock, Texas
Tavis Rogers	MSCE	Development of Standard Operating Procedures for Storm Water Sampling: Lubbock, Texas NPDES Permit
Mamatha Sethurao	MSCE	Social and Environmental Impacts of the World Bank Assisted Narmada Valley Project, India

### *Catalog of Playa Basins Continued from page 1*

Colorado, Nebraska, and Kansas, but the highest prevalence is at more southerly latitudes in Oklahoma, Texas and New Mexico. There are an estimated 24,600 playa lake basins on the Llano Estacado (the Southern High Plains south of the Canadian River) alone, with approximately 20,000 in Texas and the balance in eastern New Mexico. In portions of this region the basins occur at densities of more than one per square mile.

The staggering number of basins along with the wide area in which they occur on the plains makes them important and available to a

wide variety of interests, including agriculture, archeology, ecology, geology, non-point source pollution, public health, storm water management, water salvage, and

### **Playa Basin Symposium Slated**

**May 18 - 20, 1994**

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wildlife management, to name a few. Aside from their temporary accumulation of water, there are no generalizations on physical, chemical or biological attributes that apply to all playas. They are so diverse that they defeat at-

tempts at single parameter classification. All of the variation in their attributes can be expressed mathematically and depicted with GIS. Only a systematic accumulation and sorting of attributes will permit meaningful generalizations and prudent utilization of resources for playa management. Once a playa catalog is in place, unlimited attributes such as lists of the resident biota, landowners, political boundaries, soil types, water quality, etc. can be added to the data base as they are acquired.



# WRC Advisory Board - Seventh Annual Meeting

The eleven-member Advisory Board of the Texas Tech University Water Resources Center convened recently for its fifth annual meeting.

Dr. Lloyd Urban presented an overview of new projects that will involve the Center. He informed the Board that major changes are being discussed at the Pantex Plant which will be of major environmental concern. Other projects mentioned were the project funded by the Canadian River Municipal Water Authority (CRMWA) concerning the cause of scale in the CRMWA pipeline and the Lubbock Storm Water NPDES Permit project.

Mr. Wayne Wyatt presented a proposal for a Playa Basin Symposium. He stated three purposes for this symposium: (1) to disseminate

information, (2) to address the problem of protection of playas, and (3) to emphasize economic opportunities. Committee members were chosen to begin preparations for the symposium to be held in May, 1994.

In other business, updates were presented by Dr. Tony Mollhagen on the Environmental Science Laboratory. Overviews and updates were given on research funded by the WRC by principal investigators. A committee report was presented on the Dan M. Wells Scholarship fund by Dr. Urban.

Finally, three new members were chosen to fill vacancies to be left by Mr. Jim Bertram, Mr. Don Rauschuber, and Mr. Wayne Wyatt, whose terms expire at the conclusion of the Fall, 1994 meet-

ing. They are the following:

- Mr. Dennis "Woody" Woodward, Chief, Southern High Plains NAWQA Study, U.S. Geological Survey, Water Resources Division, New Mexico District

- Dr. John Abernathy, Texas Agricultural Experiment Station

- Dr. Kary Mathis, Chairman, Department of Agricultural Economics, Texas Tech University.

Election of officers followed with a motion made that Mr. Bertram and Mr. Hagood continue in their current offices as Chairman and Vice Chairman.

The next regularly scheduled meeting of the Advisory Board will be held in the fall, 1994.

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## Playa Basin Symposium Set for May 18, 19 and 20, 1994

The TTU WRC, the TTU ICASALS, and the High Plains Underground Water District No. 1 will co-host a playa basin symposium, planned for May 18, 19 and 20, 1994. Scheduled topics include:

- Origin of Playas
- Playas As a Wildlife Habitat
- Federal Regulation of Playas As Wetlands
- Playas and Ground Water Recharge
- Ideas for Enhancement of Playas
- Economic Value of Playas for Specific or Multi-Purpose Use

A field trip to selected playas is scheduled for the third day.

For more information please contact the Water Resources Center, (806) 742-3597 or Mr. Wayne Wyatt, High Plains Underground Water District No. 1, (806) 762-0181.



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