

Desert Research

scientists studying arid lands

By STAN GORDON

Getting hot under the collar is not unusual for a team of university scientists doing research on the major deserts of the world under a \$250,000 U.S. Army contract.

Titled "An Inventory of Geographical Research on Desert Environments," the arid lands project will cover what has been published, what research is underway in fields of publications not adequately covered, and what outstanding specialists may have on the deserts of the world.

Dr. William McGinnes, head of the project said, "The objective of this project is to develop a directory for the army on institutions doing arid lands research and to identify major authorities and principal depositions in each field."

"The army wants this information to store knowledge for a better understanding of conditions in the world's deserts," he added.

Dr. Lawrence K. Lustig, associate professor of geology, who has traveled the deserts of Asia and Africa, said, "We only evaluate, the army makes it's own judgments. By asking us to research the deserts the army brings up to date it's current knowledge and gets a practical view of new material."

Arizona's Desert Resembles Asia's

Comparing the deserts of Asia to the Yuma desert in Arizona, where the army has a test station, Dr. Lustig said, "The climate and terrain in Yuma is comparable to the deserts in Asia. What the army wants to know is if men, food, equipment and supplies are put through the rugged living conditions in the Yuma desert and survive, how will they fare in other deserts of the world?"

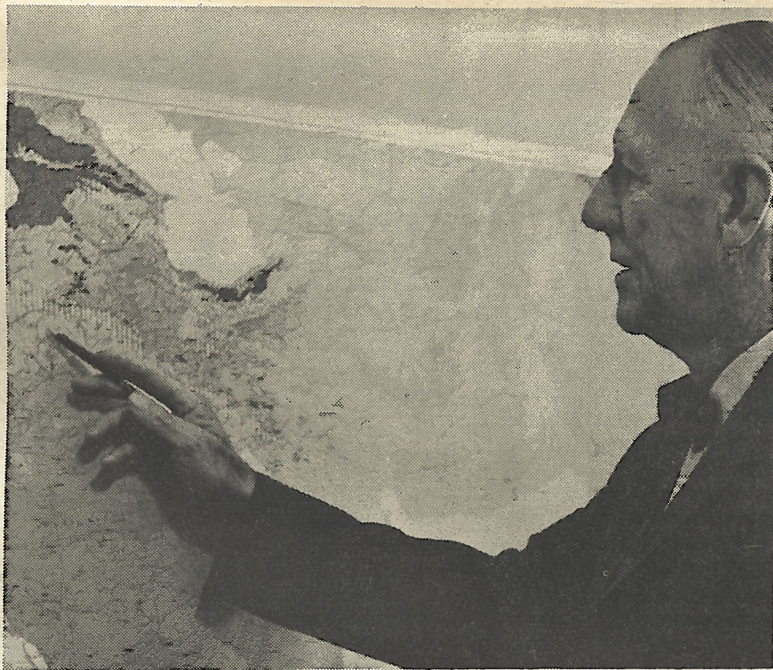
"For example," he said, "A common barrier to vehicles traveling in the desert are washes, or small gulleys. If the size of the washes in Asia are larger and more difficult to traverse than the washes in Yuma, then this is a problem the army must overcome."

Dr. Joseph F. Schreiber, associate professor of geology, who has traveled more than 9,000 miles doing research in the deserts of Australia, said, "The deserts I saw would make Arizona's deserts look like gardens. They are rocky, much rougher, more desolate and have very little rainfall."

Navy Building Radio Center

Dr. Schreiber added that the U.S. Navy was in the process of building a low-frequency radio communications station at the North West Cape of Australia on Exmouth Gulf.

"The station will be used for communication with submarines



—Wildcat Photo by Merigay Finnerty

DESERT — Dr. McGinnes points out the arid lands of Iraq. He is heading the university's research on desert environments.

in the Indian Ocean and the Southwest Pacific," he said.

Probably the most important problem of traveling across a desert is that of water.

Dr. Lustig said a new method for obtaining water in the desert is to carry a piece of plastic and some sort of container with you.

"You dig a hole in the ground, put the container at the bottom, and cover the hole with the plastic. There is always some moisture in the ground and the plastic causes it to be drawn out by creating an intense temperature in the hole. The moisture condenses, evaporates, and falls into the cup," he said.

"Throughout Southern Asia farmers use "ghanats" to obtain their water," Dr. Lustig said. He explained that "ghanats" were vertical holes dug into gravel deposits at the base of a mountain or in a gully where water is likely to run.

"Iran has more than 50,000 of these ranging in size from

2 to 3 feet in diameter and from 30 to 100 feet deep. These are interconnected by tunnels and are used to irrigate the fields," he said.

Other Means Of Obtaining Water

Another and far easier method of obtaining water is used by the people of northern Peru.

Dr. Donald L. Bryant, associate professor of geology who traveled to South America, said, "The people just wait until it rains." Dr. Bryant explained that in the deserts of northern Peru where it is more humid than in other areas, the people had parts of the rainfall area "staked out" as farms.

"When it rains the people go out and plant," he said. "The people are of a nomadic nature and try to follow the rainfall areas."

Intense winds are frequent in the deserts of Argentina and pose a problem not only in South American deserts out

North American deserts as well.

One of the most serious problems created by winds can be seen in the North American desert, particularly in the states of New Mexico, California, Arizona and Nevada.

Pitted car windows, literal sandblasting of the cars themselves and chewed up telephone poles are just a few examples.

While most people tend to think of deserts as being the same as far as temperature and general conditions, scientists review the deserts in detail. From little or no vegetation in the Atacama Desert in Argentina to an abundance of vegetation in the Kalahari Desert in Buechanaland, South Africa, deserts have a distinct make up all their own.

Arizona Mountains Resemble Argentine Deserts

Dr. Bryant explained that the topography in Argentina's deserts is similar to Southwest Arizona in the mountains.

"Rocks are good aquifers, that is to say they have enough pore space to store water," he said, "causing more rainfall in desert mountain areas. "The mountain ranges tend to cause an updraft and when rising hot air carrying some moisture meets the cold air, the moisture condenses and you get rain."

The fact that deserts are hot most of the time, rugged and in general very uncomfortable at any time of the year, leaves one pondering as to just what value deserts have besides military ones.

Dr. Bryant said, "Until recently the deserts of Argentina were avoided because they were of no economic value. Now nitrates from Peruvian and Chilean deserts have been discovered and are being mined. In northern Peru phosphates have been discovered and both of these make excellent fertilizers."

Dr. Bryant added that deserts always had had saline playas or "salt lakes."

"These are dry lakes with deposits of salt, he explained. "Their value is in the salt itself and in the minerals that may be obtained from them such as borax."

Desert Diamonds Found in Dunes

Even if diamonds are a girl's best friend would she believe it if you told her that her necklace was made from the diamonds found in the Namib Desert of Africa?

"The southern half of the Namib is covered by dunes," said Dr. Lustig. In these dunes and in the marine terraces on the coast of the desert diamonds are being found."

Sweltering to finish a project may yet be a concern to the scientists researching the deserts of the world. As most of them began only three months ago to compile their material and coordinate their facts, the statement made by Dr. McGinnes may be a hard one to live up to. He said, "The results of our study will be unclassified. There will be no secrecy involved. We intend to finish the project by December of 1966."

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