



Australian News and Information Bureau

SIMPLE SOLAR STILL—A relatively cheap solar still has been developed by the mechanical engineering division of the Australian Commonwealth Scientific and Industrial Research Organisation in Melbourne. The head of the research team, Mr. Wallace R. Read, examines a small model, testing the use of rubber sheeting.

GEOPHYSICS

Ancient Water Tapped

Rainwater 40,000 years old has been found in saturated layers about 1,500 feet beneath the desert in Saudi Arabia, a country with no permanent water courses.

➤ **STILL RELATIVELY FRESH** and cool, 40,000-year-old rainwater has been found beneath the boiling desert of Saudi Arabia.

These vast reservoirs of precious water, in saturated layers some 1,500 feet beneath the surface, can be tapped to meet the country's needs for many years, water experts of the Food and Agriculture Organization of the United Nations reported in Rome.

An investigation of this water resource has begun with a million dollar agreement between the Saudi Arabian Government and FAO, which will provide technical advice and training to develop the water resources lying under 780,000 square miles of the country.

New geophysical instruments, superior drilling equipment and methods developed in searching for Arabia's rich fields of petroleum and natural gas will be used to locate the water reservoirs, the Saudi Arabian Government announced.

These reservoirs have been slowly accumulating as rainfall has seeped downward over thousands of years. Experts estimate that some of the water has been there for at least 40,000 years. Tests show that, thanks to the normal filtering and purification phenomena, the water is of good quality, although sometimes salty.

The deserts of Saudi Arabia are dry and dusty, with less than an inch of rainfall a year, compared to 20 to 40 inches on an average for Europe. It is one of the few

large countries in the world which has no real rivers or permanent water courses.

Sudden floods do occur, and last a few hours or even days, but then the water disappears either by evaporation into the hot air or by seeping into the ground where it lies in saturated layers of earth.

The mapping and development of this underground water for surface use will bring many changes to the land and people. For centuries nomadic Bedouin tribes, driven by lack of water, have journeyed across the interior of the country, seeking meager pasture for their herds of goats, sheep and camels, upon which they depend for livelihood. The availability of fresh water will mean that these tribes can settle down into towns. Irrigation will gradually expand in settled farming areas, and industries will begin to develop. Today much of the country's stable population inhabits the many small ports along the extensive coastline and settled farming areas in the southwestern highlands of the Asir region, the wettest area in Saudi Arabia.

The first phase of the land and water development includes an investigation of 144,300 square miles in the northern region of the country, FAO officials announced. A second engineering firm will investigate some 90,000 square miles in the southwestern region, and a third firm will investigate 40,000 square miles in the Riyadh region.

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TECHNOLOGY

New Simple Solar Still Operating in Australia

➤ A **RELATIVELY SIMPLE** and cheap solar still developed by Australian scientists can easily produce 344 gallons of pure water a day.

The still works on energy from the sun to evaporate fresh water from brackish or salty water.

It was developed by researchers of the Mechanical Engineering Division of the Australian Commonwealth Scientific and Industrial Research Organization.

The still is designed to use water available in arid lands, the researchers said. Most arid regions do not lack moisture or water supplies, but the water is usually too polluted with minerals or salts for humans or animals to drink.

The design of the solar still is so simple that it can be built to any size by unskilled laborers carrying out simple instructions. Ten shallow earth trenches, each 130 feet long, are dug on slightly sloping ground. They are lined with polythene and covered with sloping glass roofs. As brackish or salt water flows through the troughs, the heat of the sun, intensified by the glass roofs, evaporates pure water that condenses on the inside of the glass and drains off the side into a storage tank.

With virtually no maintenance or attention, a test-run still has averaged 344 gallons of fresh water a day.

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GEOLOGY

Submerged Coast Map May Help Find Resources

➤ A **NEW MAP** of the land beneath the sea from Nova Scotia to Florida may help geologists detect such underwater resources as sand and gravel beds, and oil, gas, manganese, phosphorite and potash deposits.

Nearly two million soundings were made in the coastal waters to create the map, drawn at the scale of one inch to 16 miles, reported Dr. William T. Pecora, director of the U.S. Geological Survey.

The map was prepared by the Survey and Woods Hole Oceanographic Institution as part of a long-term program to explore submerged lands, to analyze marine sediments and rocks, and to determine the effects of fresh water and sediment washed from the land to sea.

The map was prepared in three sections to help geologists record these data. The northernmost sheet shows the Gulf of Maine area where about 20 basins lie 600 feet deep. The mid-Atlantic map shows the rather uniform continental shelf bordered by a steep slope cut by many sea canyons.

The southern sheet shows the slope broadening into the flatter area known as Blake Plateau.

"Geologists must explore these submerged lands as well as those above sea level to understand the dynamic processes that build and alter the earth's crust," Dr. Pecora said.

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