

# earth and environment notes

## LIMNOLOGY

### Underwater blizzards in Lake Michigan

Underwater blizzards which reduce visibility to practically zero much of the time go on constantly inside Lake Michigan regardless of the weather on the surface.

This discovery was made by oceanographers at the University of Michigan's Great Lakes Research Division, using a rented research mini-sub equipped with powerful floodlights. The blizzards are caused by fine solids, believed to be particles of dead animal and plant life swirling around in the water and slowly falling to the bottom.

So intense is the storm that in 19 of 44 dives, the researchers in the submarine could not see the bottom until they were sitting on it. Michigan investigators also discovered, using bottom profiles taken with fathometers from a surface vessel, that Lake Michigan was apparently once two separate lakes, perhaps as recently as several thousands years ago.

In the middle of the lake, which reaches a depth of 932 feet, the surveyors have found a plateau which probably used to divide the present lake. Knowledge of the lake bottom is important to beach erosion studies; it helps engineers find out what factors are deflecting surface currents.

## EUTROPHICATION

### Reclaimed sewage keeps Tahoe clean

A new lake has been created in the Diamond Valley area of California's High Sierras, across Luther Pass from the Lake Tahoe resort area. The project is the culmination of an eight-year plan to remove the threat of eutrophication of Tahoe caused by drainage of algae-feeding nutrients from resort and recreational developments.

The 165-acre man-made lake can store 3,225 acre-feet of water, which will be released during the irrigation season to provide water for downstream ranch lands. The water in the lake is reclaimed from sewage collected over an area of some 20 square miles, processed, then sent to its destination through a 27-mile pipeline including a vertical rise of 1,235 feet.

## DIVING

### Record depths in simulation tests

Two commercial deep-sea divers have set new world records for depth and duration in simulated ocean diving tests using a pressurized diving bell.

After spending about 24 hours at a simulated 800 feet so that their bodies could become saturated with the helium used in the two-gas mixture, Carl Deckman, 28, made a five-minute "bounce dive" to 1,100 feet and Daniel Fraser, 25, made a 30-minute dive to 1,050 feet. Neither of the divers reportedly experienced any harmful physiological or psychological effects. Both are

employees of International Underwater Contractors, Inc., Flushing, N.Y.

The previous record, set in February by U.S. Navy aquanauts, was a 13-minute dive to 1,025 feet.

## NUTRITION

### Protein-from-oil plant

The first commercial plant in the Free World for the extraction of protein concentrate from petroleum products is being built at the Lavera refinery in France. The plant, to be operated by British Petroleum of France, is expected to produce 16,000 tons of protein a year by 1970.

Despite all efforts to produce animal protein, says BP's French research director, Albert Champagnat, the development of present animal resources alone would leave a shortage of 10 million tons by 1980 and 22 million tons by the year 2000. Thus protein production from petroleum, he says, should be carefully considered.

World production of crude petroleum in 1966 was 1.5 billion tons, says Champagnat, of which about 90 percent was paraffinic. Certain paraffins, combined with ammonia, phosphate and trace metals, are used as a food for yeast, which grows by fermentation into a sufficient mass to be used as feed for livestock.

This process, according to Champagnat, represents a potential production of 20 million tons of protein from 40 million to 50 million tons of paraffins.

## SEISMIC SEA WAVES

### Tsunami group's first meeting

A five-nation group concerned with the danger of seismic sea waves (tsunami) met for the first time last week in Honolulu.

The International Coordinating Group on the Tsunami Warning System in the Pacific includes the U.S., Russia, Japan, Canada and Chile. It was established in 1966 under the United Nations' International Oceanographic Commission to bring the concerned countries closer together, to promote information exchange on forecasting techniques and to advise in running the International Tsunami Information Center in Honolulu.

## FIRE FIGHTING

### Weather teletype network expands

Special teletype circuits to carry forest fire information will soon be established in Arizona, New Mexico and Wyoming, completing the western states' fire-weather data network.

The stations, which will cost a total of about \$13,000 annually for the three states, will be financed by the Environmental Science Services Administration, which also operates links in Utah and Idaho. In other western states, similar links are operated by the states themselves, or by other Federal agencies. Each state has about a dozen stations in the network.

/science news/vol. 93/6 april 1968