

## METEOROLOGY

# Globe Weather Model

Colored dyes and aluminum powder swirling in glass sphere will enable scientists to watch in the laboratory the eddies and currents in our atmosphere.

► COLORED DYES and aluminum powder swirling in a glass sphere two feet in diameter will soon be used to picture the world's weather patterns.

Dr. Dave Fultz of the University of Chicago designed the sphere, which is now being built to his order.

To study, under controlled conditions, what makes our weather, Dr. Fultz has made a laboratory model of the atmosphere in a dishpan. The pan can be heated or cooled either from the outside, which represents the equator, or from the center, which represents the North Pole.

The pan spins on a rotating table rather like a phonograph turntable. Dyes to color the water and aluminum powder sprinkled on its surface allow scientists to watch the large-scale currents and eddies and atmospheric flow.

Dr. Fultz is now anxious to start swirling water in his two-foot spherical model because he wants to check whether the various weather patterns he has found in the dishpan model, which is flat, are also found in the full globe model.

Therefore, one of the first studies he will make will be of the so-called planetary waves, a world-circling band of air 30,000 to 40,000 feet above the earth's surface.

Meteorologists have learned that this band of air tends to fall into certain average patterns that can remain fairly stationary for as long as one or two months, although details change rapidly from day to day. The number and other characteristics of the gigantic wave crests and troughs of these patterns seem to control the earth's weather.

Although the crests and troughs gradually shift position over a period of time, when they are fairly stationary, the weather at the earth's surface seems to repeat itself. These repeating weather cycles are sometimes every five days, sometimes every seven days, sometimes every ten days, sometimes longer.

They give credibility to the worker's often-heard moan that it rains every weekend.

The repeating weather cycles break up as the planetary wave band slowly changes until it finally assumes a new pattern that then remains fairly stable for another month or two.

Sometimes the planetary wave encircling the earth has only four crests and four troughs. At other times, it has five or more.

In his dishpan study of the weather, Dr. Fultz has found that, as the number of crests and troughs changes, differing types

of patterns occur in the swirling water. These patterns, in a general way, resemble observed weather patterns.

Dr. Fultz can change the number of crests and troughs of the planetary wave by changing the speed of the rotating dishpan, by varying the rate of heating, by introducing obstacles to represent mountains and other geographical features.

Science News Letter, October 9, 1954

## GEOLOGY

## Giant Wombat Bones Plundered by Visitors

► VALUABLE RELICS of the prehistoric diprotodon or giant wombat have been destroyed by visitors to Brewarrina in the west of New South Wales.

The fossil expert at the Sydney Museum, H. D. Fletcher, found some of the bones were missing when he examined the find on the bank of a creek. Four lots of diprotodon bones, about half a complete diprotodon skeleton, were found in one spot.

Downstream two other lots of bones, apparently those of a palorchestes or giant

kangaroo were discovered. Due to deterioration, Mr. Fletcher said it was impossible to estimate the size of the animals.

No complete palorchestes skeletons have been recovered, but indications are that they were 10 feet high sitting and about 12 feet in fighting position. It is usual for diprotodon relics to be found near those of palorchestes.

Age of the Brewarrina relics is estimated at between 20,000 and 500,000 years.

Science News Letter, October 9, 1954

## ASTRONOMY

## New Comets Not Unusually Numerous

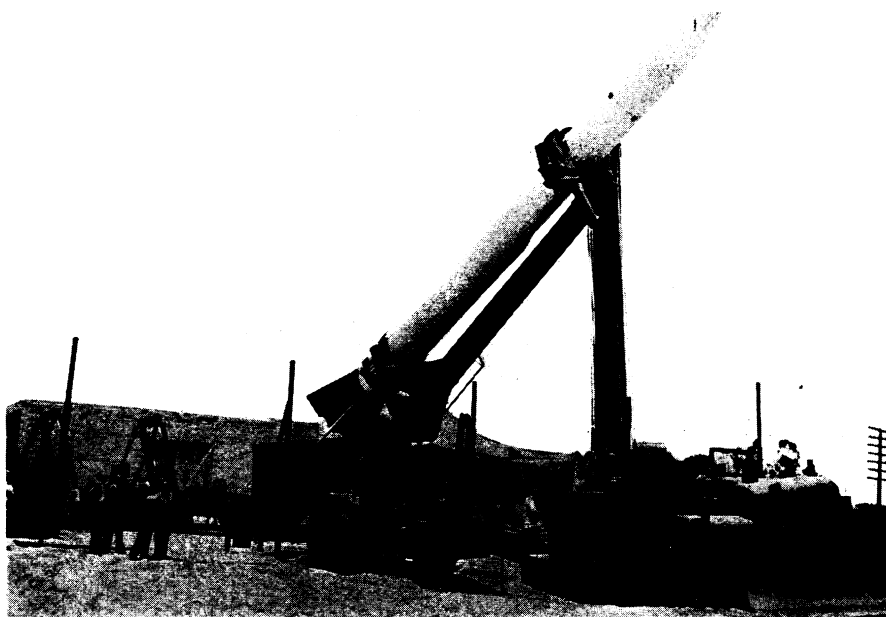
► EVEN THOUGH it may seem as if a very high number of new sky objects have been spotted in the last two months, comets are not being discovered in more than the usual number this year.

The greatest number of comets observed in one year was 22 in 1947. So far this year, astronomers have found only eight new comets, and they predict that the 1947 record will not fall in 1954.

Because of new fast cameras, such as the wide-eyed Schmidt, comets much fainter than those that could be seen ten years ago are now being spotted. Astronomers estimate that it takes about 120 hours of searching to locate one new comet.

Science News Letter, October 9, 1954

On the basis of one pound of coal per kilowatt hour of electricity, the average American family consumes 2,100 pounds of coal annually.



**THE CORPORAL**—One of the Army's newest guided missiles is this one shown on its launching device. This missile is a surface-to-surface weapon which will carry either atomic or high-explosive warheads and will travel toward its target at several times the speed of sound, propelled by a rocket motor.