RADIO

Blobs Are Studied

Better television reception should result from measurement of these small air eddies. Instrument also useful in micrometeorology.

➤ BETTER television reception, with less interference from nearby stations, will result from the measurements of small air eddies, or blobs, being made in Washington. These eddies scatter short radio wavelengths, such as those used in TV or radar.

When more is known about why these blobs are there and where they come from, their properties can be used not only to prevent interference but also possibly to send television and other short wavelengths over longer distances.

Up to now, George Birnbaum, S. J. Kryder and R. R. Lawson of the National Bureau of Standards, report that they have made their blob measurements only up to roof-top height, or about to three or four stories. They plan in the near future to measure these eddies from a tower, and later probably from captive balloons or by flying the equipment.

They demonstrated the equipment they use to make these measurements to the Conference on High Frequency Measurements. The scientists study these blobs that affect television reception by measuring at the same time, the moisture, wind speed, temperature and refractive index of air.

Although the air seems to be pretty much the same throughout, actually these invisible "dielectric eddies" change the way in which the short wavelengths are transmitted through the air in a way that can be measured. Although the changes are very small, they have a most pronounced effect upon the propagation characteristics of the wavelengths.

Normal radio waves are apparently not affected by these blobs because they are much too long, about half a mile in length. Waves in the range of three and a half feet, however, are very much affected.

The scientists predict that one of the instruments they are now using to measure the blobs could be developed to give a very precise method of measuring rapid changes in the absolute humidity for micrometeorology.

Micrometeorology, the study of weather in the very immediate vicinity, is of interest to plant breeders who like to know, for instance, just how much moisture there is within an inch or two of a growing plant.

Science News Letter, January 20, 1951

MEDICINE

More Group O in South

In case of emergency requiring large amounts of blood the best source of group O donors would be in southern part of country. B also varies geographically.

➤ IN THE event of an emergency requiring large amounts of blood, such as an atom bomb attack, the southern part of the United States will be a better source of group O donors and the northern part of group B donors.

A statistical study showing this and other geographical features of blood groups in this country is reported by Drs. George W. Hervey and Louis K. Diamond and Miss Virginia Watson of the American Red Cross National Blood Program (JOURNAL, AMERICAN MEDICAL ASSOCIATION, Jan. 13).

The regional differences for groups O and B are fairly strong, but only moderate for group A and except in occasional instances the AB group does not show variation. The differences are from north to south, but none were found from east to west. For each degree of latitude proceeding from north to south, the group O percentage was greater by 0.32 on the average.

"Probably the most acceptable interpretation," the scientists state, "is that in the South the hereditary lines of the early settlers, many of whom were Scotch, Irish, and Welsh in origin, have been subjected to less admixture from the outside than in the North. In the southwestern regions the ancestry of some persons recorded as white may be partly American Indian, slightly raising the O percentages therein."

The regional differences in blood groups could be changed markedly within a very few years by population shifts, the scientists point out.

Data for the study came from 141,774 white persons who voluntarily gave blood to the American Red Cross in 15 cities and 637 outlying communities from January, 1948, through March, 1949. This is "one of the largest aggregate samples ever described for a program under standardized technical procedures."

The majority of the blood donors were in the industrial, clerical and professional classes. Men predominated numerically, ranging from 65% in Springfield, Mo., to more than 80% in Charlotte, N. C., and Detroit. No significant difference in the incidence of any blood group could be determined between men and women.

Science News Letter, January 20, 1951

PHOTOGRAMMETRY

Mapping All Possible Battlegrounds Urged

➤ MAPPING of every possible battlefield in the world is urged by Maj. Gen. Lewis A. Pick, Chief of Engineers, U. S. Army.

Maps are tools of war. Therefore, we cannot be fully prepared mapwise for emergency periods until every potential battlefield has been mapped on a large scale, Gen. Pick emphasized to the American Society of Photogrammetry meeting in Washington.

Certain peacetime mapping projects must be cut down, he said, so that we can concentrate on military mapping of "many scattered areas." This is essential to our national defense.

Despite our most concentrated efforts on mapping during and since the last war, less than five per cent of the land area of the earth is adequately mapped. He stated that it is easier and cheaper to supply adequate maps during peace than in the hurry of emergencies, and urged an adequate program for mapping during peacetime, not hindered by the inevitable waves of economy which roll up at the end of a conflict.

Science News Letter, January 20, 1951

AGRICULTURE

Hardy Weed Seeds Live Many Years

➤ MANY weed seeds are so hardy that they can lie sleeping in a farmer's field for 10 to 30 years, then sprout and flourish, Dr. F. W. Went of California Institute of Technology has found.

In general, weed seeds will remain ready for growth under field conditions for ten-year periods. Even after 20 to 30 years, Dr. Went stated, a considerable percentage of buried weed seed is still viable. Even when soil and temperature conditions are favorable, these seeds may not start growing for many years.

"Dozens of years of continuous removal are necessary to exhaust the soil from its natural complement of weed seeds," Dr. Went said. "Almost every field which has been cultivated has a weed supply sufficient for a dozen years or more."

Science News Letter, January 20, 1951