METEOROLOGY

Predict Hurricane Paths?

Giant electronic "brains" may be used next season to help meteorologists forecast the paths of hurricanes. Predicting formation will follow later.

➤ BY NEXT year's hurricane season, giant electronic "brains" may have been put to work to help weathermen predict paths of these tropical storms.

The electronic computers probably will not track the hurricane itself because, tremendous as the energies involved are, the tropical storms are nevertheless relatively small-scale atmospheric disturbances. Particularly in their early stages, hurricanes are too small to be handled on the electronic computers under the present systems.

When weathermen learn how to predict large-scale atmospheric motions on the giant "brains," however, then they will also have solved the problem of forecasting hurricane paths.

"Electronic computers," Jerome Namias of the U.S. Weather Bureau told SCIENCE SERVICE, "may be able to bring out the broad pattern in which the hurricane is embedded."

If this can be done, he predicted, plotting the hurricane's path would be "solved."

The movements of hurricanes and other storms, Mr. Namias pointed out, seems to be governed by the wide band of wind meteorologists know as the "planetary wave" because it circles the earth. This globe-girdling band has a very long, stretched out wave motion such that there are usually only three to five crests and troughs all the way around the world.

It is the positions of these crests and troughs, Mr. Namias said, that determine the paths of violent storms on the surface. The 30-day weather forecast for September, as all the long-range outlook maps do, showed the most likely path of cyclonic disturbances, which include hurricanes.

Both Edna and Carol followed the expected path closely. This does not mean that meteorologists can now predict the occurrence of hurricanes or their paths a month in advance, Mr. Namias cautioned. His weather maps show predictions for temperatures, precipitation and pressures for most of the Northern Hemisphere.

The regions over which high and low pressure areas are found are determined, Mr. Namias explained, by the positions of crests and troughs in the planetary wave.

The pattern for September, he said, "was such as to make tropical disturbances come closer than usual to the East Coast and to occur with fair frequency."

Predicting a hurricane's path with electronic computers would possibly work like this: First, the general overall circulation, assuming that the hurricane had no influence on the large-scale air flow, would be forecast. Then the meteorologists would, by means of mathematical formulas representing the tropical disturbance, try to find where the hurricane was headed.

This process can be likened to throwing a stick on a river, then watching how fast and where it floats, and when and where it hits the river bank.

Science News Letter, October 2, 1954

PEDIATRICS

Cut Oxygen for Babies To Prevent Blindness

➤ TO SAVE their eyesight, premature babies should get oxygen only when absolutely necessary for survival. The routine use of it should be abandoned.

This is the recommendation of 75 physicians—baby doctors and eye-specialists—in 18 hospitals around the nation.

Their recommendation, based on their controlled studies, was reported by Dr. V. Everett Kinsey of the Kresge Eye Institute, Detroit, at a symposium on retrolental fibroplasia, or R.L.F., held by the American Academy of Ophthalmology and Otolaryngology in New York.

R.L.F., unknown a few years ago, is now the leading cause of blindness in children. Giving oxygen, even for a short time, during the first week of life is "intimately associated" with the disease, although it cannot be called the cause, Dr. Kinsey said.

Use of oxygen for premature babies in hospitals throughout the United States become routine as a means of helping the tiny infants survive. In advising that it be abandoned, the group reported finding no significant difference in mortality with the routine use of oxygen and with curtailed use of it.

However, among babies getting routine oxygen, 72% developed R.L.F. in some one of five active stages, compared to 30% in the group on curtailed oxygen. For the most severe stage of the disease, with permanent damage to the eye, the difference was even greater. This stage developed in 25% of the babies on routine oxygen, compared to only six percent of babies given oxygen only when absolutely necessary.

The results are for the first six months of the study, supported by the National Institute of Neurological Diseases and Blindness of the Public Health Service, the National Foundation for Eye Research and the National Society for the Prevention of Blindness.

Science News Letter, October 2, 1954

AFRICAN BIRDS—Prof. John T. Emlen of the University of Wisconsin is shown with part of the collection of bird specimens he brought back from southern Africa for exhibition by the zoology department. He is holding two African birds that closely resemble the American redwing blackbird and the meadow lark. In each hand, the African bird is on the left, and its American counterpart on the right. Neither the red-shouldered Wydah nor the yellow-throated long-claw is related to the American species which they resemble in appearance, behavior and type of habitat they occupy.

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