

METEOROLOGY

Hurricanes Still Mystery

► HURRICANES and accompanying swelling waters have killed more than 12,200 persons and have cost billions of dollars in property losses in the United States since 1900—yet no one knows for sure what causes them.

Dora, one of the mightiest hurricanes in recent years, was estimated to be the size of Hurricane Donna, the storm that raged from Florida to New England in 1960 causing some 50 deaths and millions of dollars in damage. Dora was measured at 600 miles across and its wind gusts reached 125 miles per hour.

The U.S. Weather Bureau this year began a new investigation into the exact cause of a hurricane, better known to the Caribbean Indians as huracan or "devil wind."

The study, called Project Cold Low, uses photographs from the Tiros VII and Tiros VIII satellites to find new information on the development of hurricanes.

The photographs have shown that in certain cloud patterns there are wind eddies at high altitudes. These eddies are called "cold lows" because their temperatures are lower than the surrounding atmosphere.

Many researchers believe that these cold lows may later develop downward and become hurricanes. During the study, as cold lows are detected by the satellites, research planes are sent to collect data in the area.

A tropical storm is called a hurricane when its internal winds reach speeds of 74 miles an hour or more. It is a large revolving storm accompanied by violent winds, heavy rains and high waves and tides. A hurricane's average life is nine days.

Surface winds of 150 miles per hour are occasionally reported. The highest winds possible are not definitely known, but it is estimated that winds in the most intense storms have reached speeds of 200 miles per hour. The forward movement of the hurricane rarely exceeds 40 miles per hour.

The largest death toll from a hurricane in this century occurred in Texas in 1900. Six thousand persons lost their lives, most of them by drowning, as the storm brought massive flooding to the Galveston area.

The biggest killer storm in this decade was Audrey, which took 390 lives in June 1957.

Eighty percent of all hurricanes occur in August, September and October when sea temperatures are highest.

September is the hurricane month. Of the 374 giant storms recorded since 1886, 141, including Dora, Ethel, and Gladys, have occurred in September.

Each year brings an average of ten hurricanes and tropical storms. There were seven

hurricanes on record in 1963, but only one hit the eastern coast of the United States. This year, in addition to Dora, both Hurricane Abby and Cleo reached land. Abby took a swipe at Texas in early August and Cleo cut a path through Florida at the end of August.

On Sept. 18, this season's hurricane total equalled that of last year. Gladys, spewing winds up to 90 miles an hour in the South Atlantic, became the seventh tropical storm of the season.

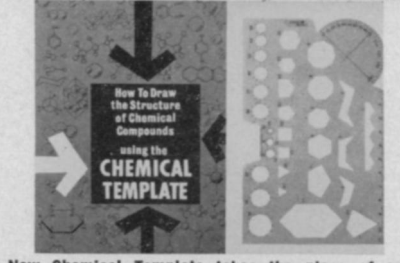
Gladys' predecessors, Ethel and Florence, caused little trouble compared to Cleo and Dora. Ethel kept her distance off the East Coast, and Florence never developed hurricane winds.

Joining in spotting and tracking hurricanes are the Tiros and Nimbus satellites, radar stations along the Gulf of Mexico and Atlantic coast, "hurricane hunter" planes and two new unmanned weather stations called MAMOS (Marine Meteorological Observing Station).

The MAMOS are floating buoys, 20 by 12 feet, anchored in the Gulf of Mexico to transmit weather information by radio hourly when storms are brewing.

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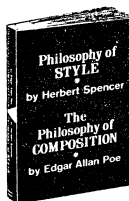
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