

METEOROLOGY

# Monsoon May Alter War

► **EARLY SIGNS** of the rainy season in Viet Nam are beginning to bring monsoon mists and rains difficult for airplane maneuverability of the South Vietnamese and U.S. forces, and helpful for the guerrillas of the Viet Cong.

As the monsoon season approaches, the increased cloudiness, lower cloud ceiling, heavy rains and winds cut down visibility and operation of the airplanes and on the other hand offer more cover and protection to individual guerrilla troops hiding on the ground.

As the monsoon builds up strength and sweeps up across the south of the country toward the north, the war operations might be moved farther north to avoid the rains.

Basically, the rainy winds over Viet Nam are starting to flow from the southwest toward the northeast, said L.A. Joos, head of the advisory service branch, office of climatology, U.S. Weather Bureau. These warm moist winds from the oceans start to flow toward the warm, low-pressure area over China about May. They deposit their heaviest load of rain during the months of June and July, and end about October, when the weather pattern is changed and the winds shift in the opposite direction.

A false rainy monsoon sometimes starts in April, caused by a flow of cold air from the north. This precipitates the clouds' moisture and can bring three or four days of rainy weather.

The exact arrival time of the rainy monsoon weather is not clearly defined and cannot be foretold, Mr. Joos said. Also, the intensity and duration may not be uniform from year to year. A heavy rainy season with floods may be followed by several seasons with little rainfall. For instance, during the month of June, Saigon may get as much as 20 inches of rain or as little as four. During the month of July, Hanoi may get as much as 26 inches or as little as three.

Monsoons actually mean a seasonal wind applied on a huge continental-oceanic scale that blows from one direction during part of the year and then blows in the other direction for the other part of the year. These winds may fluctuate in various areas depending upon the topography of the land and mountain ranges. Sometimes there is a calm period between the seasons.

Originally the name monsoon came from the word "mausim" or "season" given by the Arabs to those seasonal winds around the Arabian sea that flow for about six months from the northwest and six from the southwest.

Tipping back and forth like a giant seesaw, the monsoon winds blow from a cold area toward a warm, low-pressure area. As the warm rays of the northward traveling sun begin to heat up huge land masses of China and Asia, the winds start to move into the warm low-pressure area, bringing rains and mists as they flow over the land area from warm moist oceans.

In the autumn, the northern land masses cool down, and the winds change direction to flow again toward the warm seas.

In the Viet Nam area, said Mr. Joos, the dominant monsoon winds are beginning to flow from the Indian Ocean and the Gulf of Siam across the narrow Malasian Peninsula. As these winds hit the lands of Thailand, Cambodia, Laos and Viet Nam, they rise and drop their rains as they sweep toward the broad land areas of China and eastern Asia. Much of this wind is pulled by massive updrafts of warm air to the north, he said, but it also may be pushed by dynamic warm circulation patterns from the south.

• Science News Letter, 87:287 May 1, 1965

OCEANOGRAPHY

## Frequency Modulated Device Goes Underwater

► A **DEVICE** to measure pressures more accurately and stay submerged for up to a year is expected to make a major contribution to oceanography.

The instrument, a pressure transducer, utilizes a Telewire, a vibrating wire suspended in a magnetic field, which produces a frequency modulated output as a function of pressure changes and does it without the usual heater device. The instrument was developed by Fairchild Controls, a division of Fairchild Camera and Instrument Corporation, Hicksville, N.Y.

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## Nature Note

### Cyathura

► **LIFE** in an estuary, where rivers meet the sea, is precarious. In this tidewater habitat, an animal must constantly adjust and re-adjust to changing salt- and freshwater content.

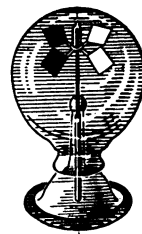
A flat stick-like creature, the cyathuran lives in this habitat from Maine southward along the Atlantic Coast to the tip of Florida, around the Gulf of Mexico into Louisiana, a distance of 3,000 miles. Other species are widely distributed in Europe.

Cyathura may have been existing on earth for several million years, says Dr. W. D. Burbanck, an Emory University, Atlanta, Ga., biologist who has done extensive research on the animal.

The cyathuran is a crustacean, like the cray and the shrimp. Its body has eight distinct segments, a head and a tail. In all, it measures approximately one-half inch.

Although the cyathuran is usually found in estuaries, a recently discovered species found about eight miles off the Georgia coast lives entirely in saltwater. This newly discovered adaptation will make an interesting study for biologists.

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