NATIONAL HURRICANE RESEARCH PROJECT
Miami, Florida

# QUARTERLY PROGRESS REPORT

Number Thirty-five
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## DATA COLLECTION PROGRAM

West Indies Rawinsonde Network.

The West Indies Rawinsonde Stations have continued their twice-daily observations.

The Point-a-Pitre, Guadeloupe Rawinsonde Station was moved recently into new quarters by the French Meteorological Service.

A contract was let for the construction of a new balloon inflation building at Santa Domingo, Dominican Republic. It is estimated that this building will be completed within the next two months, at which time the Sabana de la Mar Rawinsonde Station will be moved there.

Construction is in progress on new airport facilities at Sint Maarten, Netherland Antilles. When this is completed the rawinsonde station will be moved to new quarters on the field.

Some progress is being made on new quarters for the Kingston Rawinsonde Station but it is expected that it will be several months before it is completed and ready for occupancy.

All West Indies Rawinsonde Stations have been requested to furnish 500-mb data on a year-round basis and 700-mb data during hurricane situations upon notice from the Hurricane Central in Miami. They were authorized to begin observations as much as 45 minutes early, if needed, to get reports transmitted in time to reach the Forecasting Centers with the other collectives.

Other Surface Installations.

No change since previous report.

Aircraft Program.

The research aircraft flew 11 missions in support of the Jet Stream Project during February and early March, and another 2 missions on Project Storm Cloud.

Aircraft Program--cont.

During this period, Gust Probe systems were installed in the B-57 and both DC-6's, but some checkout work is still required to achieve fully operational systems.

Digital logic circuitry, radar interrogators and radio control systems were installed in one DC-6 (N6539C) to tie in with the drone program. Tests with the equipment installed in this DC-6 have resulted in a meteorological drone aircraft being controlled from the DC-6 in flight at a distance in excess of 50 miles.

Meteorological data from severe storms was telemetered from the drone to the DC-6 for entering in the digital record in the full scale evaluation program held in cooperation with the U. S. Navy at Oklahoma City beginning April 23.

## DATA PROCESSING AND ANALYSIS

Machine Processing Facilities.

Work is continuing on processing the 1961 hurricane flight data. The task of writing data processing programs for the recently installed GE 225 computer is nearing completion. When these programs become available, the first data to be processed will be that obtained by the four DC-6 flights into Esther on September 16 and 17. The two Anna flights on July 21 and 22 will receive next priority. These six flights are now being processed by the "PLOT-Z" program, which is a preliminary program to detect and correct errors in absolute altitude.

National Hurricane Center Research Unit.

The remaining thirty-six hurricane flights are undergoing a more preliminary type of processing. Radar film is being examined to determine the most accurate possible positioning of the data with respect to the cyclone center and to the surface of the earth. Whenever the aircraft instrument system failed to record data on magnetic tape, data are being read from the backup photo-panel film.

The photographing of the teletype data on 16-mm. film is now completed for the hurricane seasons of 1957-61, inclusive. Portions of the teletype data for the winter of 1957 and 1958 have also been photographed.

## RESEARCH AND DEVELOPMENT

National Hurricane Center.

A report on "Mean Layer Wind Charts in Tropical Analysis" by Dr. J. A. Colon and Mr. E. J. Zipser has been completed and submitted for reviews. A brief discussion of the usefulness of mean layer winds in tropical