

# ASTRONOMICAL DIVISION

## WEATHER BUREAU

### ANNUAL REPORT FOR THE YEAR 1939 (January to December)

#### I. THE TIME SERVICE.

The main duty of the Astronomical Division is the daily transmission of time signals to the telegraph office of the Bureau of Posts, to the Manila Railroad, and to the U. S. Naval Radio Station at Cavite. The type of signal used was the American and the times of transmission were:-

U. T.	M.S.T.	Receiving Station
2:55-3:00	10:55-11:00	{ Bureau of Posts Manila Railroad
4:25-4:30	12:25-12:30	Cavite
11:55-12:00	19:55-20:00	{ Bureau of Posts Manila Railroad Cavite

The 4<sup>h</sup>.5 and the 12<sup>h</sup>.0 signals were broadcast from the U. S. Naval Radio Station at Cavite on the frequencies of 113 kc., 9250 kc., and 12630 kc. Each signal as broadcast from Cavite was received and automatically recorded for at least a minute by the Division in order to determine the errors in the signal. These errors were carefully noted and every month published and sent to other observatories and time stations throughout the world. The mailing list for the time signal corrections contains about 25 names, including the leading observatories of America, Asia, and Europe. The purpose of this mailing list is as follows. There are very few observatories in the world today that maintain a time service. The other observatories check their master clocks with the time signals as received by radio. The statement of errors of each signal is necessary to correct for the unavoidable errors that creep into the service.

Following are the mean errors of the signals for each month of the year-

MONTH	SHORT WAVE	LONG WAVE
January	0.018 sec.	0.018 sec.
February	.015	.015
March	.017	.018