

Pilot balloon ascents for studying upper air currents began at Manila Observatory on July 1, 1935. The first ascent at Cebu was made on March 2, 1937. Aparri was the next station to begin these observations, the date being April 17, 1937. On June 1st of the same year, Zamboanga inaugurated these observations. Dagupan began the ascents on November 1, 1938. These five Weather Bureau stations have furnished two ascents every day, weather permitting, the morning ascents taking place close to 7 o'clock and the afternoon ascents at approximately 2 o'clock. The data are coded and sent to Manila with the regular weather telegram. Most of these ascents have been broadcasted, in code, from the Observatory radio station, K O B.

Rubber balloons are used, measuring about 6 inches in length uninflated. They are inflated with Hydrogen so as to ascend in still air at the rate of 180 meters per minute. The free lift values for this rate of ascent were obtained from Circular O, Aerological Division, U. S. Weather Bureau. The observers were instructed to follow the balloon as long as they could see it; very few ascents, consequently, were "abandoned," and then only for serious reasons.

Two theodolites were purchased from Negretti & Zambra, London, and these were used at Manila and Aparri. Two theodolites from Zeiss & Co., Germany, were purchased late in 1935. These were self-recording theodolites, eliminating the necessity of reading the two angles each minute and saving a considerable portion of the computation after the ascent was finished. Besides the telescope on the Zeiss instrument was much clearer and the balloons could be followed to a greater distance. Tests were made, the balloon being followed with the two different theodolites, and the resulting data were practically the same, even though the points on the Zeiss instrument were plotted on a circular piece of paper about 7 inches in diameter, whereas the computation in the case of the English instrument was worked out on a celluloid disk about 5 feet in diameter. More of the Zeiss instruments

will be used to supply all of the stations with these