

台北全天空雲況與其降水之研究

On the Cloud Condition over Taipei and
the Related Precipitations

亢 玉 瑾

台灣大學大氣科學系

一 前 言

作者民國 62 年 8 月至 63 年 7 月之研究計劃「台北全天空雲況變化之研究」(亢氏, 1975) 因儀器滯達, 攝得雲況影片太少, 僅作定性分析。故進一步改進儀器, 加裝配件, 選用更合適底片, 濾片, 選擇重點持續進行拍攝。選拍之原則為: 有重大雲況變化時, 則加以拍攝, 在冬季雲況穩定致少變化或大量降水, 易使畫面模糊, 以及儀器保養期間, 則停止拍攝。所得影片甚多, 均予定量分析, 並與實際目測資料相比較。

二 使用儀器及資料

所使用儀器(圖一)為時逝攝影機。主要由 *Bolex H 16 RX-5* 16 mm 攝影機, 配合 *Vario-Switor 100 POE* 200 m 鏡頭及以 107 E 板固定的定時開關所構成。鏡頭朝着

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Yu-Chin Kang

Department of Atmospheric Sciences
National Taiwan University

From November 1974 to August 1975, all sky cloud cover pictures over Taipei, Taiwan, Republic of China, have been taken with time-intervals of less than 15 seconds by a time-lapse camera focusing at convex mirror facing the sky. Cloud movies composed of these pictures were closely watched and individual pictures were also examined and compared on a microfilm reader with the purpose to study cloud conditions such as the amount, heights and velocities with help of supplementary data obtained from pibal and surface observations and weather maps. Short period variations of clouds, which are undetectable by routine observation, have been observed. Comparison between cloud conditions interpreted from pictures and that reported by surface observations.

As to the relationship between precipitation and cloud, the result is not as good as we imagined, because rainwater spreading over the mirror usually made the cloud pictures obscured. However, we still get the following informations: (1) During Summer, precipitating cumulonimbus had a developing stage about 30 to 70 minutes before raining and occurred more frequently in the direction of S to SE, where the lifting effect of the low mountain ranges might play an role., (2) In other seasons, rainfalls chiefly came from stratiformed clouds associated with fronts.

In addition to the findings mentioned above, we have learned a lot of techniques both in photography and in relevant instrumentation. Most valuable are the 87 roles of colored cloud pictures which could show the vivid life of the local clouds. We hope, when time permits, to investigate them under different sub-topics with a view to obtaining more detailed knowledge about the cloud world.