[Reprinted from BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY,
Vol. 29, No. 4, April, 1948, pp. 166–174.]
Printed in U. S. A.

SPECIAL PUBL. NO. 25
OF
MANILA
OBSERVATORY

Cirrus "Stripes" and Typhoons

REV. CHARLES E. DEPPERMANN, S.J.
Manila Observatory*

ABSTRACT

The article analyzes critically all cases of striped cirrus seen at Manila during the author's second Cloud Year, March 16th, 1946 to March 15th, 1947. The data favor the following conclusions: (a) Striped cirrus usually arise from the so-called false cirrus tops of cumulonimbus, strung out into lines by a strong upper air stream. (b) Striped cirrus at Manila are usually of forecasting value only if the typhoon or depression is to Manila's E–SE and the storm is moving W–WNW. (c) Great prudence should attend their use, since they may arise from any types of frontal or orographic disturbances apart from any typhoon whatsoever.

IN 1936, in his "Outlines of Philippine Frontology," the writer commented thus on the so-called "radiating cirrus":—

"Fr. Viñez of Belen (Havana, Cuba) was very enthusiastic about this criterion in the case of hurricanes in the West Indies. Fr. Algué was more reserved about its application in the Philippines, but still considered that used with care it could be of great help at times. The writer confesses that, at least with regard to typhoons which have come under his personal observation during the past few years, he has had very little success with the criterion. A little figuring will show an apparent convergence of a few degrees from horizon to horizon, quite difficult to discern, unless very sharply defined, results from the parallel cirrus which is often present. In quite a few cases where the writer thought he had convergent cirrus, careful observation showed that there were generally *two* sets of *parallel* cirrus of different altitudes meeting near the horizon. The significance of these two sets of cirrus has not yet been found. In many cases, especially with smaller typhoons, nothing could be done with cirrus, for the simple reason that no cirrus was on hand. . . ."

During his second Cloud Year, from March 16th, 1946 to March 15th, 1947, the writer carefully noted all cases of cirrus "stripes," and photographed them whenever possible. By cirrus "stripes" we refer to quite straight horizontal lines of clouds, at least apparently radiating from a distant point near the horizon. The rawins used with the cloud data were those obtained by the U. S. Air Force at Ft. McKinley, a few miles to the southeast of the writer's observation tower. The cirrus stripes, if any, seen at the time of the year's different typhoons and depressions near Manila will first be discussed individually, and then general conclusions attempted, consonant with all the data relating to cirrus stripes, whether seen during typhoon periods or not.

(A) TYPHOON OF MARCH 31ST, 1946 TO APRIL 5TH, 1946

The positions of the typhoon center on the above days were approximately 13–140 (i.e., 13°N. Lat., 140°E. Long.), 15–135, 16–130, 17–125, 18–121, 21–121. Manila is at 15°N. Lat., 120°E. Long. Striped cirrus was seen on April 2nd and 3rd.

On April 2nd three observations showed cirrus directed approximately NW–SE, and one observation of cirrus motion gave motion from SE. But on April 2nd the typhoon was already to our E or E by N, and moving WNW. Cirrostratus was seen *parallel* to the cirrus and not perpendicular to it, as would have been natural if the cirrostratus formed a circle around the storm center and the cirrus was radiating. A picture at sunrise seemed to show cirrus stripes directed NE–SW, but cirrus near the horizon lit by the sun is difficult to diagnose correctly, and it is usually preferable not to use such observations, unless necessary. Rawins were on hand up to 12 km, but gave NNE–NE winds to 11 km and E at 12 km, i.e. directions not consonant with the cirrus observed. It may possibly be that the said cirrus was quite high and directed along the broad steering current of the typhoon.

* c/o Rev. Leo Cullum, 2913 Calle Herran, Manila, P. I.