

Letter To The Editor

551-577

IS CHERRAPUNJI THE WETTEST SPOT ON THE EARTH?

Cherrapunji (Lat. $25^{\circ}15' N$, Long. $91^{\circ}44' E$) is reputed to be the wettest spot in the world with an average annual rainfall of 1109.91 cm based on data for 55 years upto 1957. Das (1951) has shown that, besides the peculiar orographic features of Cherrapunji, the heavy rainfall there may be attributed to its proximity to the line of discontinuity between the continental air from east to northeast and maritime air from southwest to southeast during the monsoon period. The main orographic features of Cherrapunji that contribute to its heavy rainfall are (i) its location on the southern scrap of the Khasi hills where the slope is, on the average, about 1:113 towards the sector southwest to southeast and (ii) its elevation 1313.7 metres above sea level. Considering the effect of wind discontinuity practically the same within a few kilometres around Cherrapunji, variation of rainfall in the area may be expected to be brought about by variations in orographic features. In other words, places around Cherrapunji may be wetter than Cherrapunji if orographic influences there are more effective than at Cherrapunji.

An examination of the orographic features of Mawsynram (Lat. $25^{\circ}18' N$, Long. $91^{\circ}35' E$, elevation 1401.5 m. asl) situated on a hillock about 16 km west of Cherrapunji shows that the main orographic features of Cherrapunji are obtainable at Mawsynram also (Fig. 1). But an additional feature in favour of Mawsynram receiving more rainfall than Cherrapunji appears to be its higher elevation compared to Cherrapunji by 87.8 metres. Further, Mawsynram is situated on the fringe of a narrow valley with its mouth,

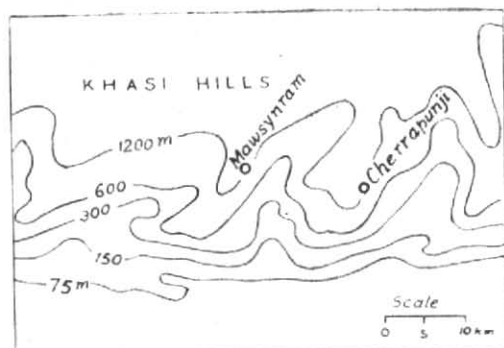


Fig. 1. Orographic map of Khasi hills

about 6 km wide, open to the south. The valley is about 1000 metres deep where it runs south-north up to a distance of 9 km whereafter it turns to northeast. During the monsoon period the maritime air reaching the valley would converge particularly in the area where the valley changes its course. Such convergence may give rise to strong vertical currents capable of causing heavy rainfall on the adjacent hills. Being situated on the windward side on the range of hills that skirts the valley where it changes its course, Mawsynram is likely to receive very heavy rainfall.

Yet another station whose rainfall challenges Cherrapunji rainfall is Mount Waialeale in Honolulu (Lat. $22^{\circ}04' N$, Long. $159^{\circ}30' W$, elevation 1541.8 m) in the island of Kauai. Mt. Waialeale received 33,735.54 cm of rainfall while Cherrapunji received only 32,472.67 cm during the period 31 July 1930 to 19 November 1958. This fact provided by the comparison of fairly long period data of Mt. Waialeale leads one to believe that Mt. Waialeale is wetter than Cherrapunji.

I am extremely thankful to Mr. David I. Blumenstock, Pacific Area Climatologist, Honolulu, for so kindly furnishing me with Mt. Waialeale data for recent years together with the required details of the raingauge.

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REFERENCE

Das, J. C.

1951 *Indian J. Met. Geophys.*, 2, p. 197.

Erratum for Vol. 10 No. 3

Page 316, column 2, para 1, for 'assuming $\rho \approx \rho'$ ' read 'assuming ' $p \approx p'$ '