

RECOMMENDATION ITU-R P.839-2

RAIN HEIGHT MODEL FOR PREDICTION METHODS

(Question ITU-R 201/3)

(1992-1997-1999)

The ITU Radiocommunication Assembly,

considering

- a) that information is required regarding the height to which rain extends during periods of precipitation,

recommends

- 1** that for areas of the world where no specific information is available, the mean rain height, h_R , may be approximated by h_0 , the mean 0° C isotherm height:

$$h_0 = \begin{cases} 5 - 0.075(\varphi - 23) & \text{for } \varphi > 23 & \text{Northern Hemisphere} \\ 5 & \text{for } 0 \leq \varphi \leq 23 & \text{Northern Hemisphere} \\ 5 & \text{for } 0 \geq \varphi \geq -21 & \text{Southern Hemisphere} \\ 5 + 0.1(\varphi + 21) & \text{for } -71 \leq \varphi < -21 & \text{Southern Hemisphere} \\ 0 & \text{for } \varphi < -71 & \text{Southern Hemisphere} \end{cases}$$

where h_0 is in km above mean sea level and φ is the latitude in degrees;

- 2** that for North America and for Europe west of 60° E longitude, the following model for the mean 0° C isotherm height during rainy conditions may be used as an estimate of the mean rain height:

$$h_R = 3.2 - 0.075(\varphi - 35) \quad \text{for } 35 \leq \varphi \leq 70$$

where h_R is in km above ground.
