

A new curve for representing the spatial distribution of rainfall

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Abstract The spatial variability of rainfall, an important element of the hydro-climatic regime, has been a comparatively difficult element to address. The availability of high-resolution gridded rainfall data in recent times is now offering new possibilities. Conceptually, in the line of the hypsometric curve, a curve can be drawn using the gridded rainfall data to represent the distribution of rainfall across the area of the catchment. It is proposed to call this curve the “hyetometric curve”. The use and potential of hyetometric curves are demonstrated by drawing such curves for the tributary catchments of the trans-Himalayan Arun basin that spans from China to Nepal. The hyetometric curve can aid in establishing hydrological similarity and framing catchment classification schemes. It makes computing the average rainfall of a catchment much easier. It has potential for use also in climate change studies. All these aspects are discussed in this paper.

Key words rainfall; spatial variability; gridded data; hyetometric curve; Arun basin, Himalaya