PMP. In computing orographic PMP, for example, the model should be tested against observed orographic precipitation only. Testing may be restricted to storm periods showing little or no evidence of convergence precipitation, or the convergence component of total observed precipitation may be estimated (section 3.2.3.7) and subtracted from the total to obtain an estimate of the orographic component.

In estimating convergence PMP, the measure of the storm mechanism, or efficiency, is the P/M ratio computed from outstanding storms. As a precaution against over-maximizing, only P/M ratios from general storms producing heavy orographic precipitation should be used. Another precaution is to use only maximum persisting 12-hour 1 000-hPa dewpoints observed in major general-type storms for moisture maximization.

3.4 MODIFICATION OF NON-OROGRAPHIC PMP FOR OROGRAPHY

3.4.1 Introduction

Two general approaches for estimating PMP in orographic regions were briefly mentioned in section 3.1.6. One, the orographic separation method using a laminar-flow model, was described in detail in section 3.3. The other, as the title of this section implies, consists of first estimating the non-orographic PMP for the non-mountainous problem region and then applying modifying factors to adjust the non-orographic PMP for orographic effects. The non-orographic PMP may be determined for the plains area in the region of interest, or if there are no broad plains areas it may be estimated as if the mountains did not exist in order to provide a working base.

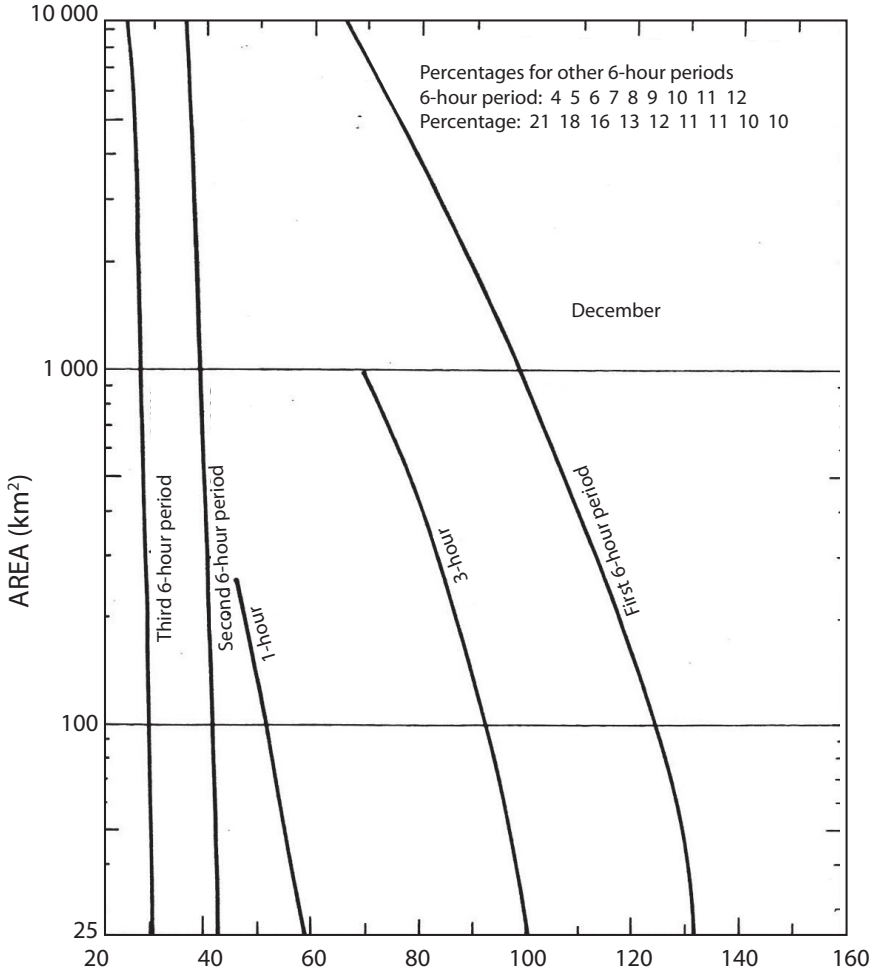

Figure 3.17. Varation of convergence PMP index with basin size and duration for December (United States Weather Bureau, 1961*a*)