

	<i>Page</i>
3.4 MODIFICATION OF NON-OROGRAPHIC PMP FOR OROGRAPHY .....	56
3.4.1 Introduction .....	56
3.4.2 Tennessee River basin above Chattanooga, Tennessee .....	57
3.4.2.1 Topographic effects.....	57
3.4.2.2 Derivation of PMP .....	58
3.4.2.3 Seasonal variation .....	58
3.4.2.4 Depth–duration relations .....	59
3.4.2.5 Geographic distribution of PMP .....	59
3.4.2.6 Time distribution of PMP.....	60
3.5 CAUTIONARY REMARKS ON ESTIMATING PMP IN OROGRAPHIC REGIONS .....	63
3.5.1 Basic data deficiencies .....	63
3.5.2 Orographic separation method.....	63
<b>CHAPTER 4. STATISTICAL ESTIMATES .....</b>	<b>65</b>
4.1 USE OF STATISTICAL PROCEDURE .....	65
4.2 DEVELOPMENT OF PROCEDURE .....	66
4.2.1 Basis .....	66
4.2.2 Adjustment of $\bar{X}_n$ and $S_n$ for maximum observed event.....	66
4.2.3 Adjustment of $\bar{X}_n$ and $S_n$ for sample size.....	66
4.2.4 Adjustment for fixed observational time intervals.....	66
4.2.5 Area-reduction curves .....	68
4.2.6 Depth–duration relationships.....	68
4.3 APPLICATION OF PROCEDURE .....	70
4.4 GENERALIZED ESTIMATES .....	70
4.5 CAUTIONARY REMARKS .....	72
<b>CHAPTER 5. GENERALIZED ESTIMATES.....</b>	<b>75</b>
5.1 INTRODUCTION .....	75
5.1.1 Base maps .....	75
5.2 ESTIMATES FOR NON-OROGRAPHIC REGIONS USING GENERALIZED MAPS.....	76
5.2.1 Moisture maximization .....	76
5.2.2 Storm transposition .....	76
5.2.2.1 Storm transposition techniques.....	76
5.2.3 Data smoothing (envelopment).....	77
5.2.3.1 Data smoothing (envelopment) for grid point technique .....	77
5.2.3.2 Data smoothing (envelopment) for the storm limit transposition technique .....	78
5.2.3.3 Preparation of final map.....	78
5.2.4 Supplementary aids .....	79
5.2.5 General remarks .....	79
5.2.6 Summary of procedural steps .....	80
5.2.7 Application of generalized or regionalized non-orographic PMP estimates to specific basins .....	81
5.2.7.1 Temporal distribution.....	81
5.2.7.2 Isohyetal patterns.....	83
5.2.7.3 Isohyetal orientation .....	84
5.2.7.4 Isohyet values .....	85
5.2.7.5 Selection of area of PMP storm for drainage.....	88
5.2.7.6 Stepwise procedure .....	88
5.3 ESTIMATES FOR OROGRAPHIC REGIONS .....	91
5.3.1 Introduction .....	91
5.3.2 PMP for drainages up to 259 km <sup>2</sup> in the Tennessee River basin .....	92
5.3.2.1 Outstanding rainfalls over the eastern United States.....	92
5.3.2.2 Local topographic classification.....	92
5.3.2.3 Broad-scale topographic effects .....	92
5.3.2.4 PMP depth–duration curves for 2.6 km <sup>2</sup> .....	93