

Table 6.10. PMP for each grid of either Chambal or Betwa watershed

<i>Geographic coordinate of grid</i>		<i>MAF</i>	<i>PMP for 1-day duration for each area (km²)</i>			
<i>Latitude (°)</i>	<i>Longitude (°)</i>		<i>2 500</i>	<i>5 000</i>	<i>7 500</i>	<i>10 000</i>
23	76	1.34	458	429	411	394
23	77	1.34	458	429	411	394
23	78	1.43	489	458	439	420
23	79	1.48	506	474	454	435
24	75	1.37	469	438	421	403
24	76	1.43	489	458	439	420
24	77	1.43	489	458	439	420
24	78	1.48	506	474	454	435
24	79	1.43	489	458	439	420
24	80	1.37	469	438	421	403
25	74	1.34	458	429	411	394
25	75	1.34	458	429	411	394
25	76	1.34	458	429	411	394
25	77	1.34	458	429	411	394
25	78	1.43	489	458	439	420
25	79	1.43	489	458	439	420
25	80	1.37	469	438	421	403
26	75	1.07	366	342	328	315
26	76	1.22	417	390	375	359
26	77	1.14	390	365	350	335
26	78	1.34	458	429	411	394
26	79	1.34	458	429	411	394
27	76	1.13	386	362	347	332

6.2.5 PMP estimation for the Daguangba Project in Hainan Island, China

6.2.5.1 Introduction

Located between longitude 108°–110° E and latitude 18°–20° N, Hainan Island has a tropical island climate that is slightly continental. The Daguangba Project is located in the south-west of Hainan Island in the Changhuajiang River basin. It has an above-dam-site watershed area of 3 498 km². Analysis of records of storms in the Daguangba watershed between 1951 and 1983 with 24-hour rainfall amounts larger than 200 mm showed that they were all caused by typhoons. As a result, PMP estimation for the Daguangba Project study focused on the impact of typhoon storms.

6.2.5.2 Estimation of orographic components of storms in the Changhuajiang River basin

The generalized estimation method was used for PMP estimation for the Daguangba Project. Since the watershed was in an orographic region, the orographic component was separated from observed storms in order to facilitate generalizing the convergence component of the storms.

Analysis of the geographical distribution of extremes of storm rainfalls with various durations in China showed variations in the orographic effects. Differences between regions in rainfalls less than 1 hour are small and orography has no marked effect on these storms. For time intervals from 1–24 hours or longer, orography has an increasing effect on the enhancement of storms.