

**Table 5.25. Initial mean rainfall depths enclosed by ellipses A–H in Figure 5.67**

Ellipse label	Area enclosed (km <sup>2</sup> )	Area between (km <sup>2</sup> )	Initial mean rainfall depth (mm)										
			Duration (hours)										
			0.25	0.5	0.75	1	1.5	2	2.5	3	4	5	6
Smooth													
A	2.6	2.6	232	336	425	493	563	628	669	705	771	832	879
B	16	13.4	204	301	383	449	513	575	612	642	711	765	811
C	65	49	177	260	330	397	453	511	546	576	643	695	737
D	153	88	157	230	292	355	404	459	493	527	591	639	679
E	280	127	141	207	264	321	367	418	452	490	551	594	634
F	433	153	129	190	243	294	340	387	422	460	520	562	599
G	635	202	118	174	223	269	314	357	394	434	491	531	568
H	847	212	108	161	208	250	293	335	373	414	468	506	544
Rough													
A	2.6	2.6	232	336	425	493	636	744	821	901	1 030	1 135	1 200
B	16	13.4	204	301	383	449	575	672	742	810	926	1 018	1 084
C	65	49	177	260	330	397	511	590	663	717	811	890	950
D	153	88	157	230	292	355	459	527	598	647	728	794	845
E	280	127	141	207	264	321	418	480	546	590	669	720	767
F	433	153	129	190	243	294	387	446	506	548	621	664	709
G	635	202	118	174	223	269	357	417	469	509	578	613	656
H	847	212	108	161	208	250	335	395	441	477	541	578	614

$$MRD_i = \frac{V_{i(\text{between})}(g)}{C_{i(\text{between})}(b)}$$

- (i) Other PMP durations are determined by repeating steps (a) to (h) for other durations.

#### 5.4.3.4 Seasonal variation

The storms associated with short-duration PMP estimates are assumed to be summer or early autumn thunderstorms. In some regions of Australia, summers are very dry and winter storms of lesser magnitude may be more critical for design purposes; this is true for south-western Australia. A seasonal variation curve for this region based on the variation of the moisture determined from the monthly extreme persisting 24-hour dewpoints expressed as a percentage of the annual extreme appears in Figure 5.68. These are based on the

maximum of the monthly values at 12 sample stations across southern Australia.

It is applicable to catchments south of 30° S and with an area less than 500 km<sup>2</sup>.

#### 5.4.4 Steps to calculate short-duration small-area PMP

The following steps can be followed to determine PMP for a basin.

- The terrain classification of the basin is determined.
- PMP duration permissible at the location of the basin is determined (Figure 5.63).
- PMP for the duration specified or permitted for the area of the basin is determined