This spreadsheet performs PMP calculation for the entire Surface Facility Area
This PMP value is used in the Calculation 000-PSA-MGR0-01900-000-00A

From **Hansen, E.M., Schwarz, F.K. and Riedel, J.T., 1977: "PMP Estimates for Col**
Hydrometeorology Report No 49, National Weather Service, US Departmen

Table 6.3A **Local Storm PMP computation, Colorado River, Great Basin and California**
For drainage average depth PMP, go to Table 6.3B if areal variation is requ

Drainage Name	Midway Valley Wash	
Drainage Area (mi^2)	13.751	35.615
Latitude	36	52
Longitude	116	29
Minimum Elevation (ft)	3500	

Calculation steps (corresponds to HMR 49, Section 6.3A):

1. Average 1-hr 1-mi2 (2.6 km2) PMP for drainage (in) [Figure 4.5]:
10.3
2. a. Reduction for elevation (no adjustment for elevation up to 5000 feet (1524 m), 5% decrease per 10
0
b. Multiply Step 1 by Step 2a:
0
c. Adjusted PMP values is equal to Step 1 minus Step 2b (in):
10.3
3. Average 6/1-hr ratio for drainage [Figure 4.7]:
1.36
4. Durational variation for 6/1-hr ratio of Step 3 [Table 4.4]:

	Duration (hr)						
6/1-hr ratio	1/4	1/2	3/4	1	2	3	4
1.3	74	89	95	100	114	121	125
1.4	63	83	93	100	118	126	132
1.36	**67.4**	**85.4**	**93.8**	**100**	**116.4**	**124**	**129.2**

5. 1 mi2 (2.6 km2) PMP for indicated durations [Step 2c X Step4] (in):

6.9	8.8	9.7	10.3	12.0	12.8	13.3

6. Areal reduction [Figure 4.9]:

70	75	77	80	82	83	84

7. Areal reduced PMP [Step 5 X Step 6] (in):

4.9	6.6	7.4	8.2	9.8	10.6	11.2

8. Incremental PMP [successive subtraction in Step 7] (in):

			8.24	1.59	0.77	0.58
4.86	1.74	0.84	0.80			

		Hourly preciptiation hyetograph (in)			
9. Time sequence of incremental PMP (in) according to:		1	2	3	4
Hourly increments (in)					
[Table 4.7]	Distribution 1	0.30	0.58	1.59	8.24
	Distribution 2	0.43	0.77	8.24	1.59

15 min increments (in)							
[Table 4.8]	4.86	1.74	0.84	0.80			
				15 min precipitation hyetograph (in)			
	1	2	3	4	5	6	7
	0.074083	0.074083	0.074083	0.074083	0.144406	0.144406	0.144406
				3 min precipitation hyetograph (in)			
	1	1	1	1	2	2	2
	0.014817	0.014817	0.014817	0.014817	0.028881	0.028881	0.028881

Time	Precipitation (in)
0	0.0148
3	0.0148
6	0.0148
9	0.0148
12	0.0148
15	0.0148
18	0.0148
21	0.0148
24	0.0148
27	0.0148
30	0.0148
33	0.0148
36	0.0148
39	0.0148
42	0.0148
45	0.0148
48	0.0148
51	0.0148
54	0.0148
57	0.0148
60	0.0289
63	0.0289
66	0.0289
69	0.0289
72	0.0289
75	0.0289
78	0.0289
81	0.0289
84	0.0289
87	0.0289
90	0.0289
93	0.0289
96	0.0289
99	0.0289
102	0.0289
105	0.0289
108	0.0289
111	0.0289
114	0.0289
117	0.0289
120	0.0796

123	0.0796
126	0.0796
129	0.0796
132	0.0796
135	0.0796
138	0.0796
141	0.0796
144	0.0796
147	0.0796
150	0.0796
153	0.0796
156	0.0796
159	0.0796
162	0.0796
165	0.0796
168	0.0796
171	0.0796
174	0.0796
177	0.0796
180	0.9719
183	0.9719
186	0.9719
189	0.9719
192	0.9719
195	0.3475
198	0.3475
201	0.3475
204	0.3475
207	0.3475
210	0.1684
213	0.1684
216	0.1684
219	0.1684
222	0.1684
225	0.1601
228	0.1601
231	0.1601
234	0.1601
237	0.1601
240	0.0385
243	0.0385
246	0.0385
249	0.0385
252	0.0385
255	0.0385
258	0.0385
261	0.0385
264	0.0385
267	0.0385
270	0.0385
273	0.0385
276	0.0385

279	0.0385
282	0.0385
285	0.0385
288	0.0385
291	0.0385
294	0.0385
297	0.0385
300	0.0216
303	0.0216
306	0.0216
309	0.0216
312	0.0216
315	0.0216
318	0.0216
321	0.0216
324	0.0216
327	0.0216
330	0.0216
333	0.0216
336	0.0216
339	0.0216
342	0.0216
345	0.0216
348	0.0216
351	0.0216
354	0.0216
357	0.0216

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)00 feet (305 m) above 5000 feet (1524 m)

5	6	
128	130	
137	140	
133.4	**136**	**Intepolated**
13.7	14.0	
84.5	85	
11.6	11.9	
		Sum
0.43	0.30	**11.9**
		8.2
5	6	
0.77	0.43	**Selected**
0.58	0.30	

8	9	10	11	12	13	14	15	16
0.144406	0.397786	0.397786	0.397786	0.397786	4.86	1.74	0.84	0.80
2	3	3	3	3	4	4	4	4
0.028881	0.079557	0.079557	0.079557	0.079557	0.971908	0.347522	0.168426	0.160144

17	18	19	20	21	22	23	24
0.192404	0.192404	0.192404	0.192404	0.108021	0.108021	0.108021	0.108021
5	5	5	5	6	6	6	6
0.038481	0.038481	0.038481	0.038481	0.021604	0.021604	0.021604	0.021604

This spreadsheet performs PMP calculation for the entire portal area
This PMP value is used in Calculation 000-PSA-MGR0-01900-000-00A.

From **Hansen, E.M., Schwarz, F.K. and Riedel, J.T., 1977: "PMP Estimates for Col**
Hydrometeorology Report No 49, National Weather Service, US Departmen

Table 6.1 **General Storm PMP computation, Colorado River, Great Basin and Californ**
For drainage average depth PMP, go to Table 6.3B if areal variation is requ

Drainage Name	Yucca Mountain Basin	
Drainage Area (mi^2, km^2)	13.751	35.6
Latitude (D,M,S)	36	52
Longitude (D,M,S)	116	29

Calculation steps (corresponds to HMR 49, Section 6.3A):

	Duration (hrs)					
	6	12	18	24	48	72
A. Convergence PMP:						
1. Drainage average from one of figures 2.5 to 2.16 (in):	10.5		(from Fig 2.12)			
2. Reduction for barrier elevation [Figure 2.18]:	65					
3. Barrier-elevation reduced PMP [Step 1 X Step 2] (in):	6.8					
4. Durational variation figs 2.25 - 2.27 and table 2.7:			(from Fig 2.27 (August))			
	68	85	94	100	115	122
5. Convergence PMP for indicated durations [Step 3 X Step 4] (in):	4.6	5.8	6.4	6.8	7.8	8.3
6. Incremental 10 mi2 (26 km2) PMP [sucessive subtraction in Step 5] (in):	4.6	1.2	0.6	0.4	1.0	0.5
7. Areal reduction [select from figs 2.28 and 2.29]:			(from Fig 2.29, August-September)			
	99	99.5	100	100	100	100
8. Areally reduced PMP [Step 6 X Step 7] (in):	4.6	1.2	0.6	0.4	1.0	0.5
9. Drainage average PMP [accumulated values of Step 8] (in):	4.6	5.7	6.4	6.8	7.8	8.3
B. Orographic PMP:						
1. Drainage average orographic index from figure 3.11a to d (in):	3		(from Fig 3.11d)			
2. Areal reduction [figure 3.20]:	98					
3. Adjustment for month [one of figs 3.12 to 3.17]:	100		(from Fig 3.15, August)			
4. Areally and seasonally adjusted PMP [Steps 1 X 2 X 3] (in):	2.9					
5. Durational variation [Table 3.9]:						
	32	59	81	100	152	177
6. Orographic PMP for given durations [Steps 4 X 5] (in):	0.9	1.7	2.4	2.9	4.5	5.2

C. Total PMP (in):

1. Add steps A9 and B6:

5.5	**7.5**	**8.7**	**9.7**	**12.3**	**13.5**

2. PMP for other durations from smooth curve fitted to plot of computed data.

3. Comparison with local-storm PMP (see sec 6.3)

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Comparison of PMP

Local PMP (in/6hr)

		NPP
Area	mi^2	13.751
Local PMP	in/6hr	11.907
General PMP	in/6hr	5.535

0	0.0148
3	0.0148
6	0.0148
9	0.0148
12	0.0148
15	0.0148
18	0.0148
21	0.0148
24	0.0148
27	0.0148
30	0.0148
33	0.0148
36	0.0148
39	0.0148
42	0.0148
45	0.0148
48	0.0148
51	0.0148
54	0.0148
57	0.0148
60	0.0289
63	0.0289
66	0.0289
69	0.0289
72	0.0289
75	0.0289
78	0.0289
81	0.0289
84	0.0289
87	0.0289
90	0.0289
93	0.0289
96	0.0289
99	0.0289
102	0.0289
105	0.0289
108	0.0289
111	0.0289
114	0.0289
117	0.0289

120	0.0796
123	0.0796
126	0.0796
129	0.0796
132	0.0796
135	0.0796
138	0.0796
141	0.0796
144	0.0796
147	0.0796
150	0.0796
153	0.0796
156	0.0796
159	0.0796
162	0.0796
165	0.0796
168	0.0796
171	0.0796
174	0.0796
177	0.0796
180	0.9719
183	0.9719
186	0.9719
189	0.9719
192	0.9719
195	0.3475
198	0.3475
201	0.3475
204	0.3475
207	0.3475
210	0.1684
213	0.1684
216	0.1684
219	0.1684
222	0.1684
225	0.1601
228	0.1601
231	0.1601
234	0.1601
237	0.1601
240	0.0385
243	0.0385
246	0.0385
249	0.0385
252	0.0385
255	0.0385
258	0.0385
261	0.0385
264	0.0385
267	0.0385
270	0.0385
273	0.0385

276	0.0385
279	0.0385
282	0.0385
285	0.0385
288	0.0385
291	0.0385
294	0.0385
297	0.0385
300	0.0216
303	0.0216
306	0.0216
309	0.0216
312	0.0216
315	0.0216
318	0.0216
321	0.0216
324	0.0216
327	0.0216
330	0.0216
333	0.0216
336	0.0216
339	0.0216
342	0.0216
345	0.0216
348	0.0216
351	0.0216
354	0.0216
357	0.0216
	11.907