

### Project / Basin Overview

Located in Southern Verm 172 mi<sup>2</sup> drainage area/basin Atlantic/eastern side of Appalachians 2 major tributaries West River (25 miles) Winhall River (19 mile



## Site Specific PMP Methods



Figure 2.7 Example of storm transposition. Long dashed lines indicate maximum persisting 12-hour 1 000-hPa dewpoints (°C) for the same time of year the storm occurred or within 15 days according to common practice (section 2.3.1).





### Non-Orographic Storms

- $TF = IPM \times Ht \times Vt$
- TF = Transpositioning Factor
- IPM = In-Place Maximization
- Ht = Horizontal Transposition Factor Vt = Vertical Transposition Factor

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# Developing an Updated PMP Estimate within the HMR 51 'Stippled Region': **Ball Mountain Dam**

### Storm Selection

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Post-HMR 51 Storms						
Date	Storm Center Location	Notes				
1984: May 28-June 2	Ashfield, MA	Isolated >10" rainfall totals				
1987: March 30-April 2	Pinkham Notch, NH	2"-3" rainfall on top of 3"-5" SWE	- man .			
1987: April 4-8	Ashfield, MA	4"-7" rainfall following antecedent storm				
1999: September 16-17	Danbury, CT	Remnants of Hurricane Floyd				
2005: October 6-9	Marlboro, VT	Remnants of Tropical Storm Tammy				
2005: October 15-16	Benton, NH	Sub-Tropical Depression 22	A Comment			
2011: August 29	Bristol, CT	Remnants of Hurricane Irene	Agne			
2011: September 7	Maine, NY	Remnants of Tropical Storm Lee				





Months	M Factor			
December-February	0.40			
March-April	0.42			
May-June	0.45			
July-September	0.54			
October-November	0.48			
Note the higher storm intensification during tropical storm season				

AFP is convergence precipitation for an index area size and index durat usually 10-mi<sup>2</sup> and 24-hou



5.51 - 6.00



Precipitation (inches) 7.51 - 8.00 7.01 - 7.50 6.51 - 7.00 6.01 - 6.50 6.51 - 6.00 6.01 - 5.50 4.51 - 6.00 4.51 - 5.00 4.51 - 5.00 4.01 - 4.50 3.51 - 4.00





**72 Hour PMP = 21.15 inches** 13.9% Reduction from HMR 51



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----- September 1904 November 1927 ----- September 1932 ------ April 1933 August 1933 ----- March 1936 (1 —— March 1936 (2 ------ August 1939 December 1948 ------ August 1955 —— June 1972 —— May 1984 ------ March 1987 <del>------</del> April 1987 ------- September 1999 ------ October 2005 (1 ---- October 2005 ( ——— August 2011 

Study Name	Date	Reference	PMP (inches)	Duration (hours)				
eral Design Memorandum	1956	HMR 33	20.60	60				
way Design Flood Review	1990	HMR 51	24.57	72				
rent Study	2015	Site-Specific	20.52	60				
rent Study	2015	Site-Specific	21.15	72				

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