

RMC-RFA Input Data

DLS-114, Module 2.2



U.S. ARMY



**US Army Corps
of Engineers®**

Dam and Levee
Safety Programs

March 2026 / Version 1

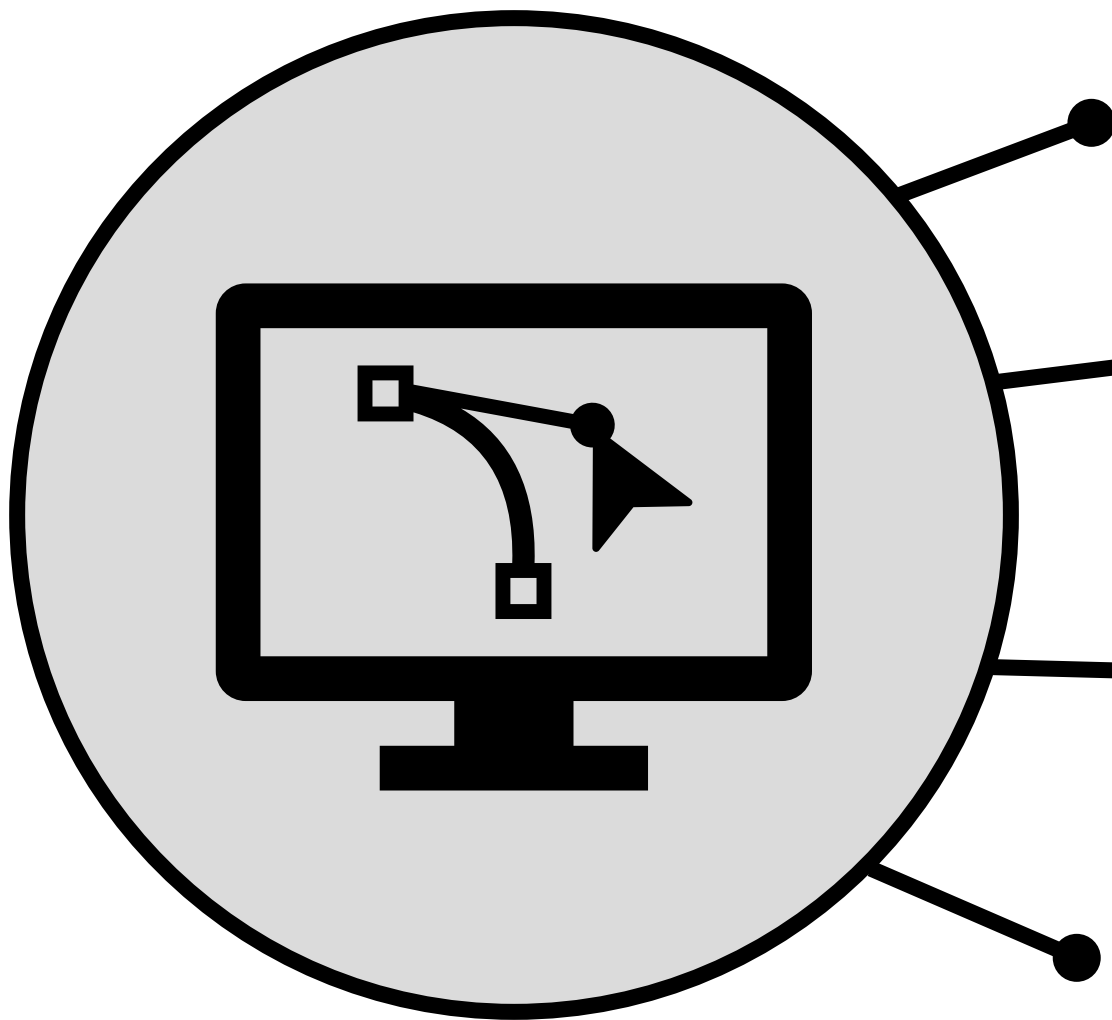
BONNEVILLE DAM, OR (SOURCE: HDR)

Learning Objectives

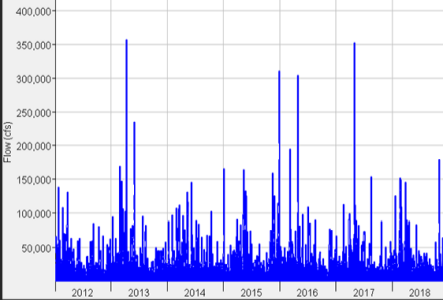
- Identify 4 types of data necessary for an RMC-RFA project
- Discuss how these data types fit into the RMC-RFA framework
- Demonstrate how to input the data into the RMC-RFA model



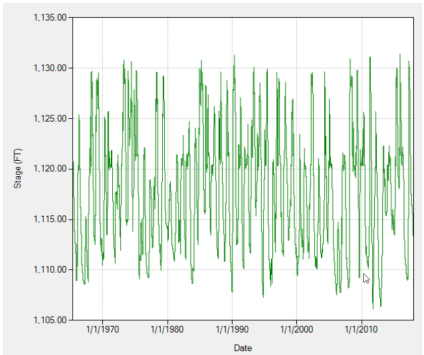
Bonneville Dam, OR



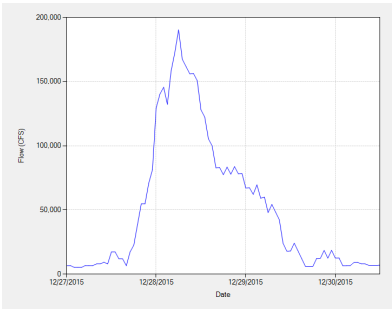
Discharge
gage



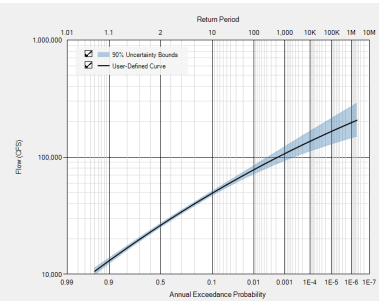
Stage
gage



Inflow
hydrograph



Volume
frequency
curve



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Check Your Data



Inaccurate
data



Incorrect
data



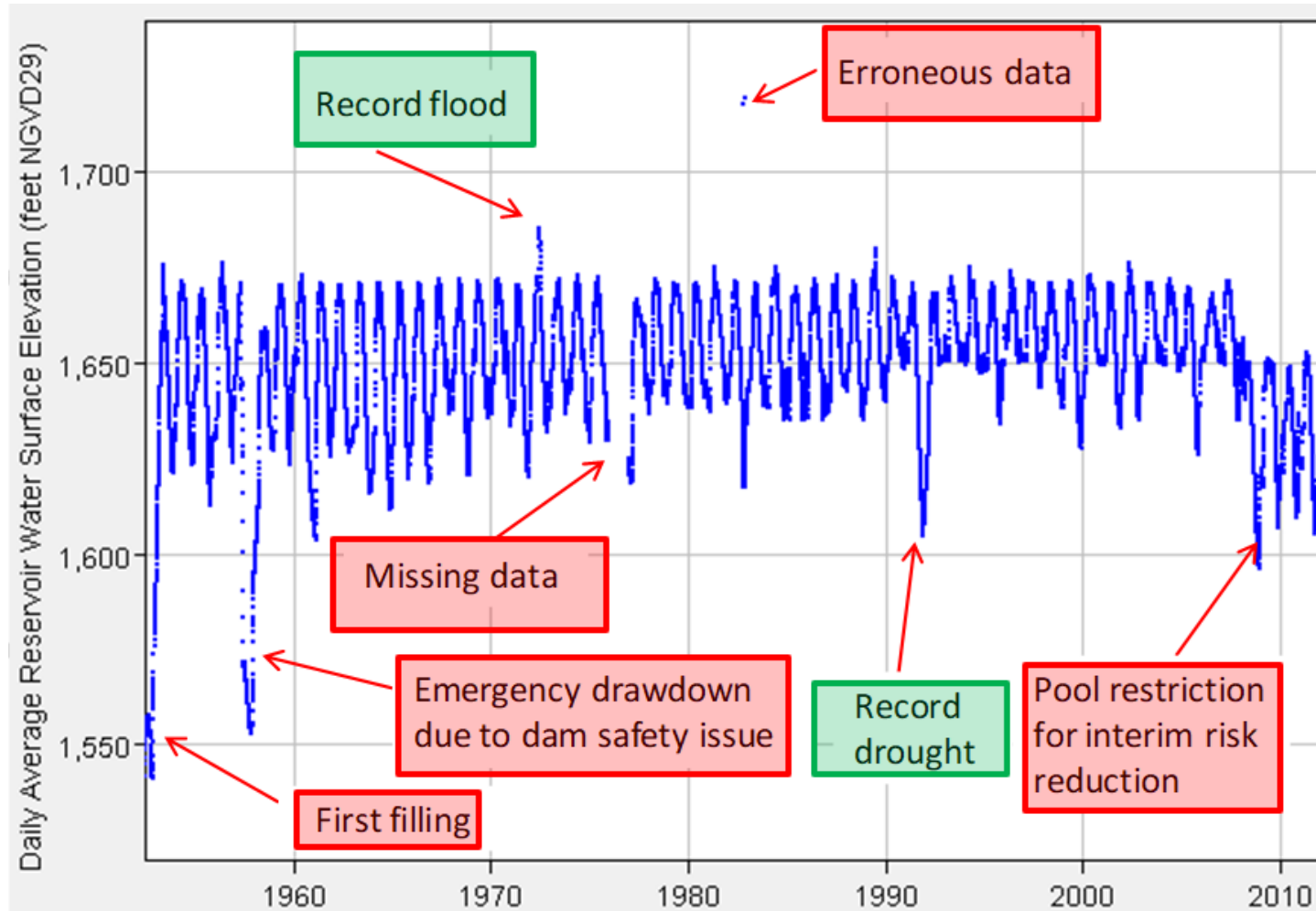
Duplicate
data



Missing
data



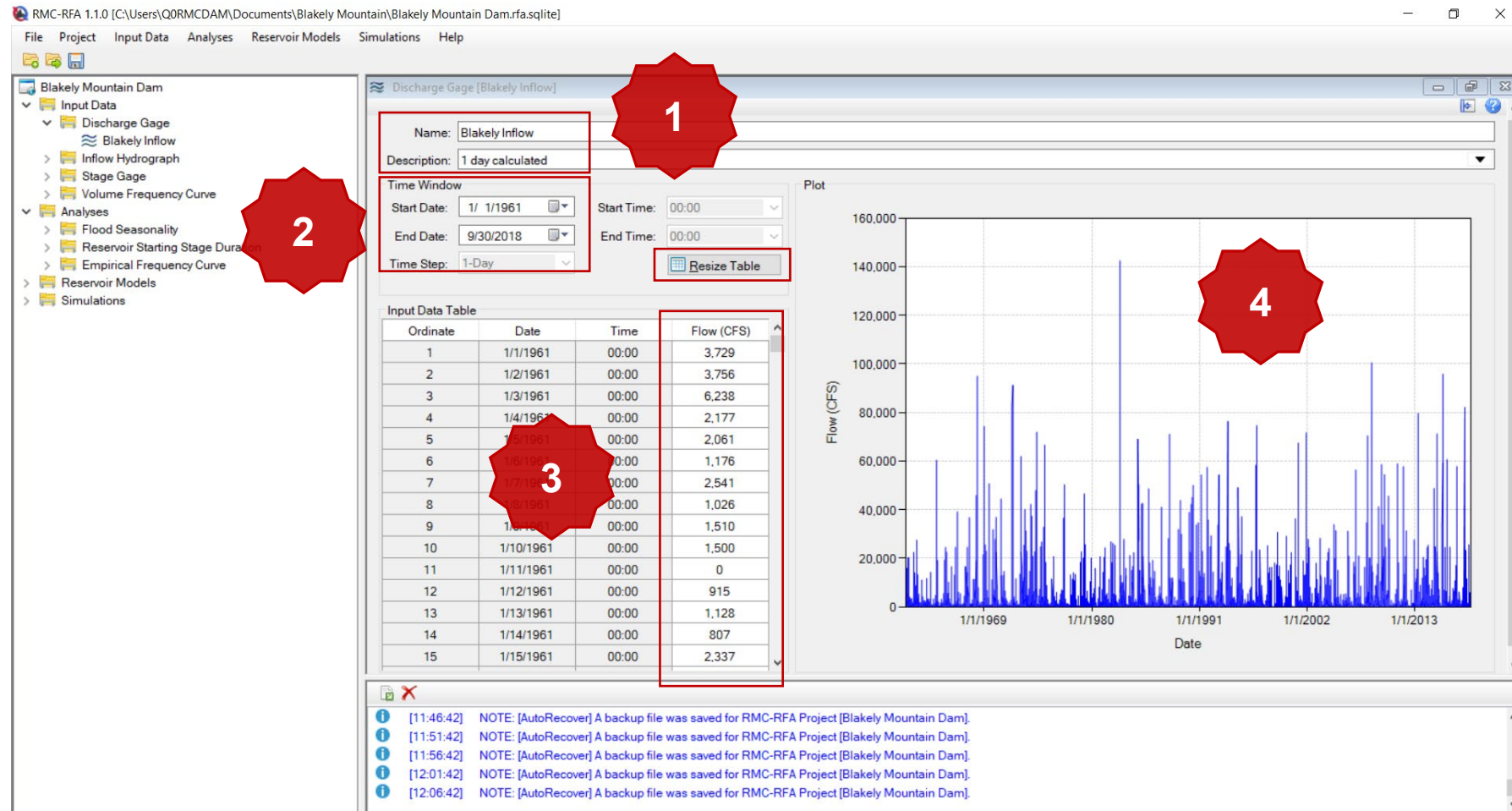
Example Data



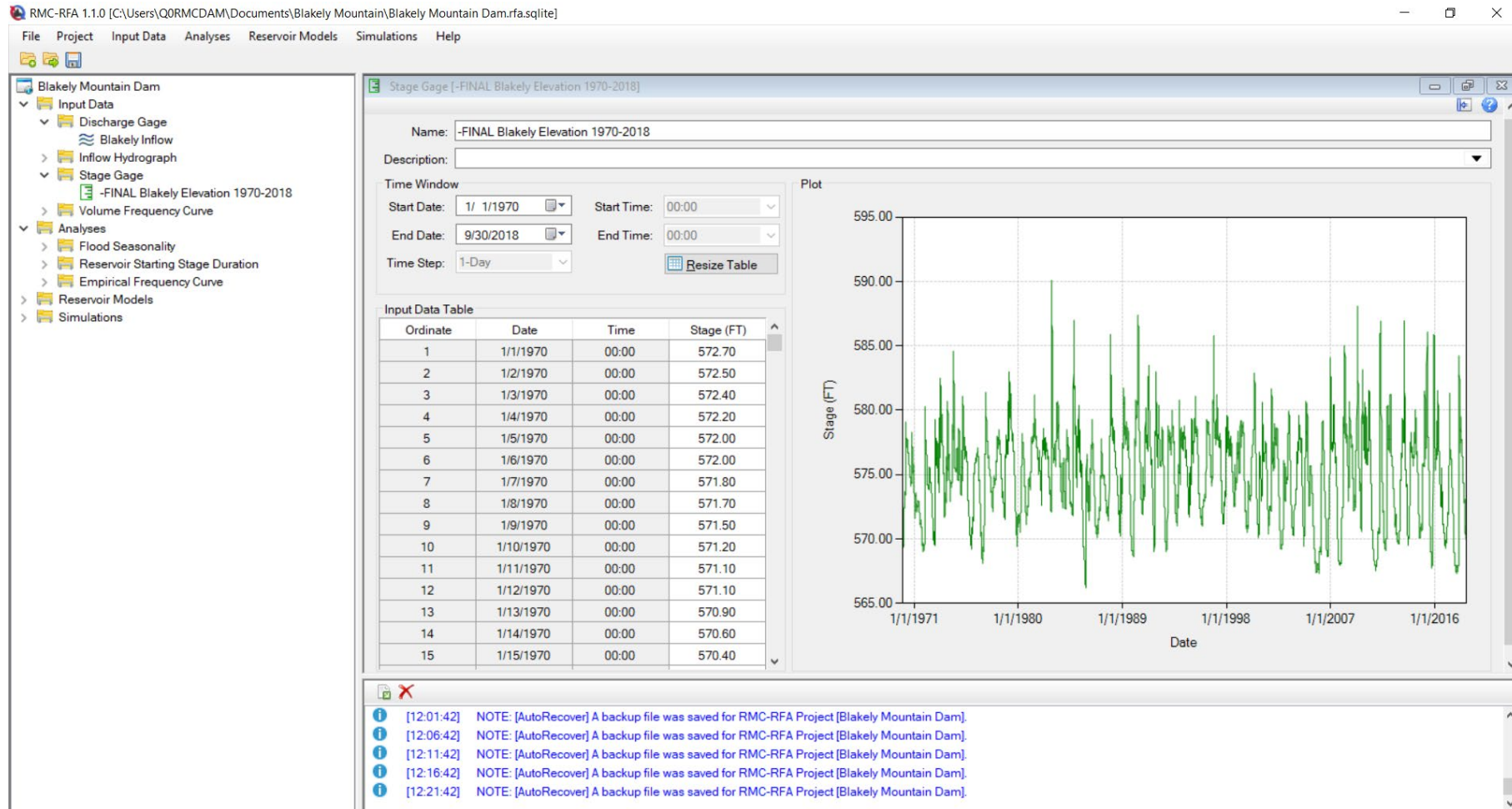
Natural variability

Human caused

Discharge Gage



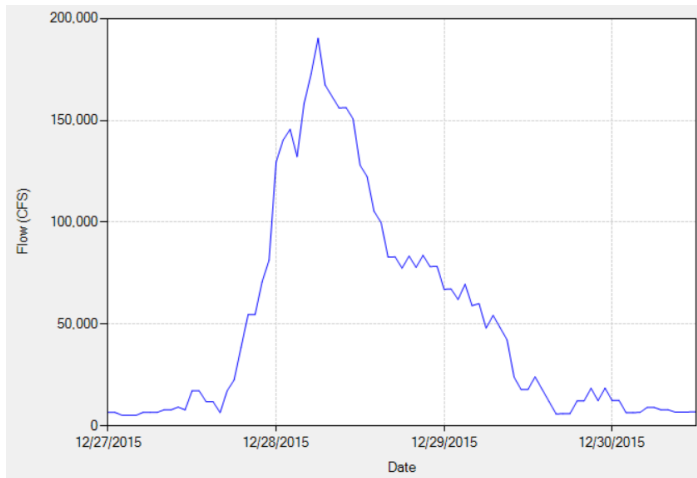
Stage Gage



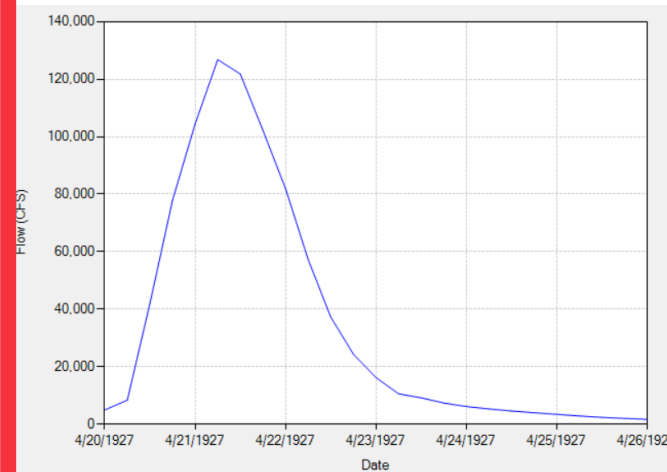
Inflow Hydrograph Selection

Representative of the critical duration

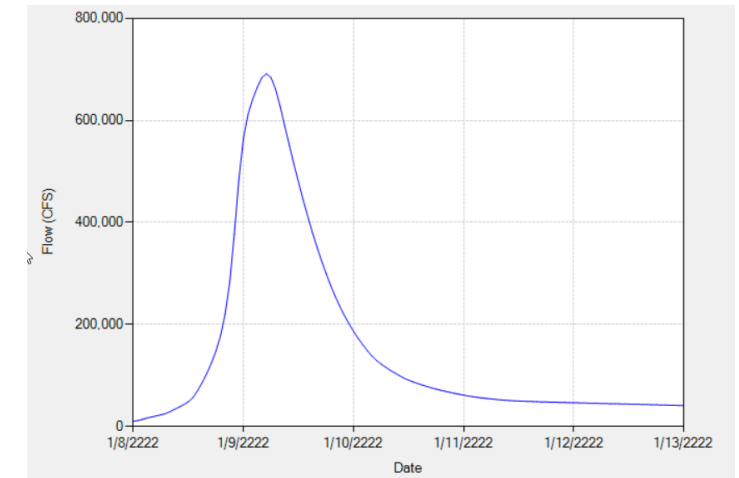
Observed flood



Reconstructed historic flood

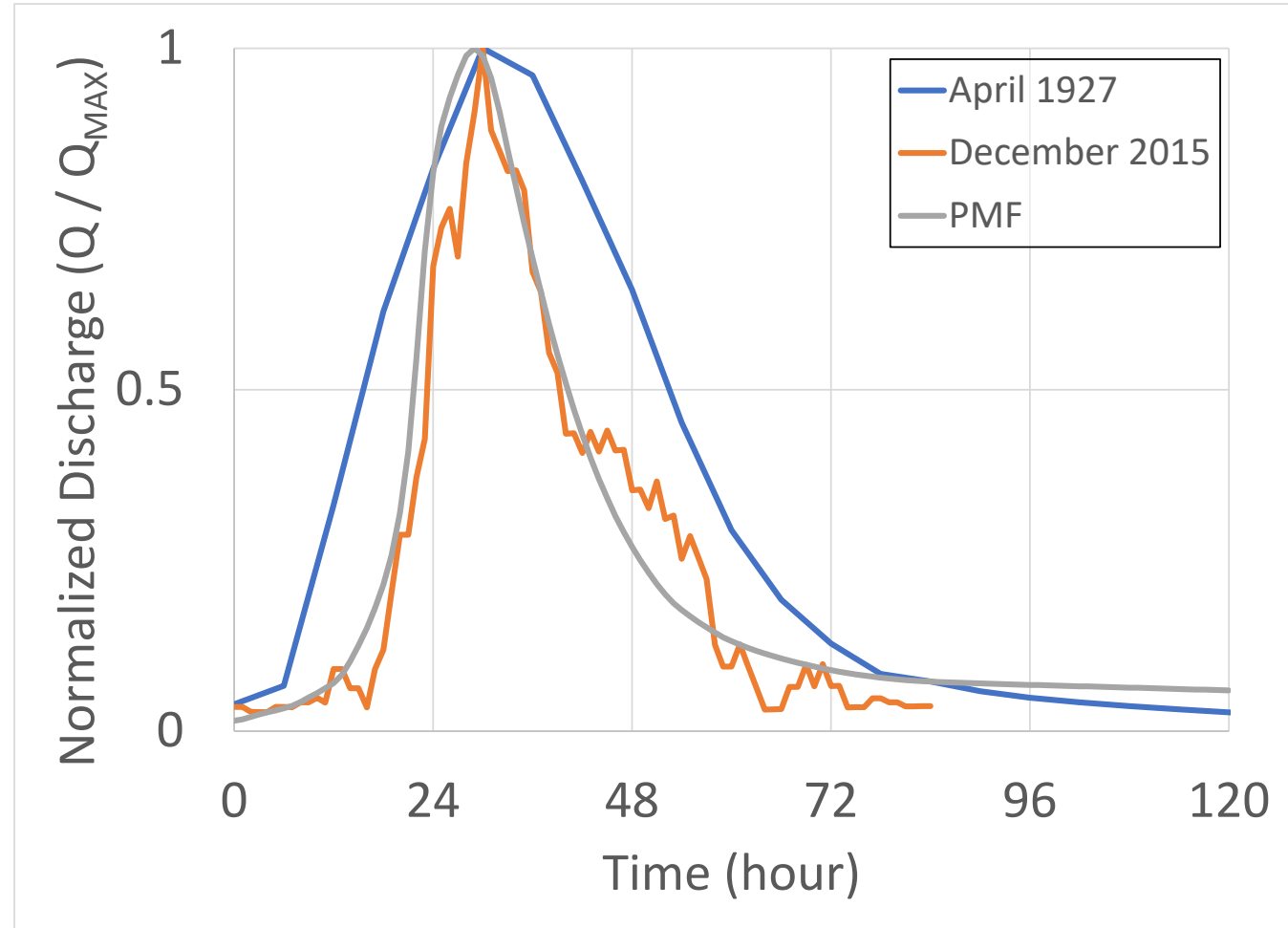


Synthetic flood (PMF)



**Rule of thumb:
3-5 large observed floods**

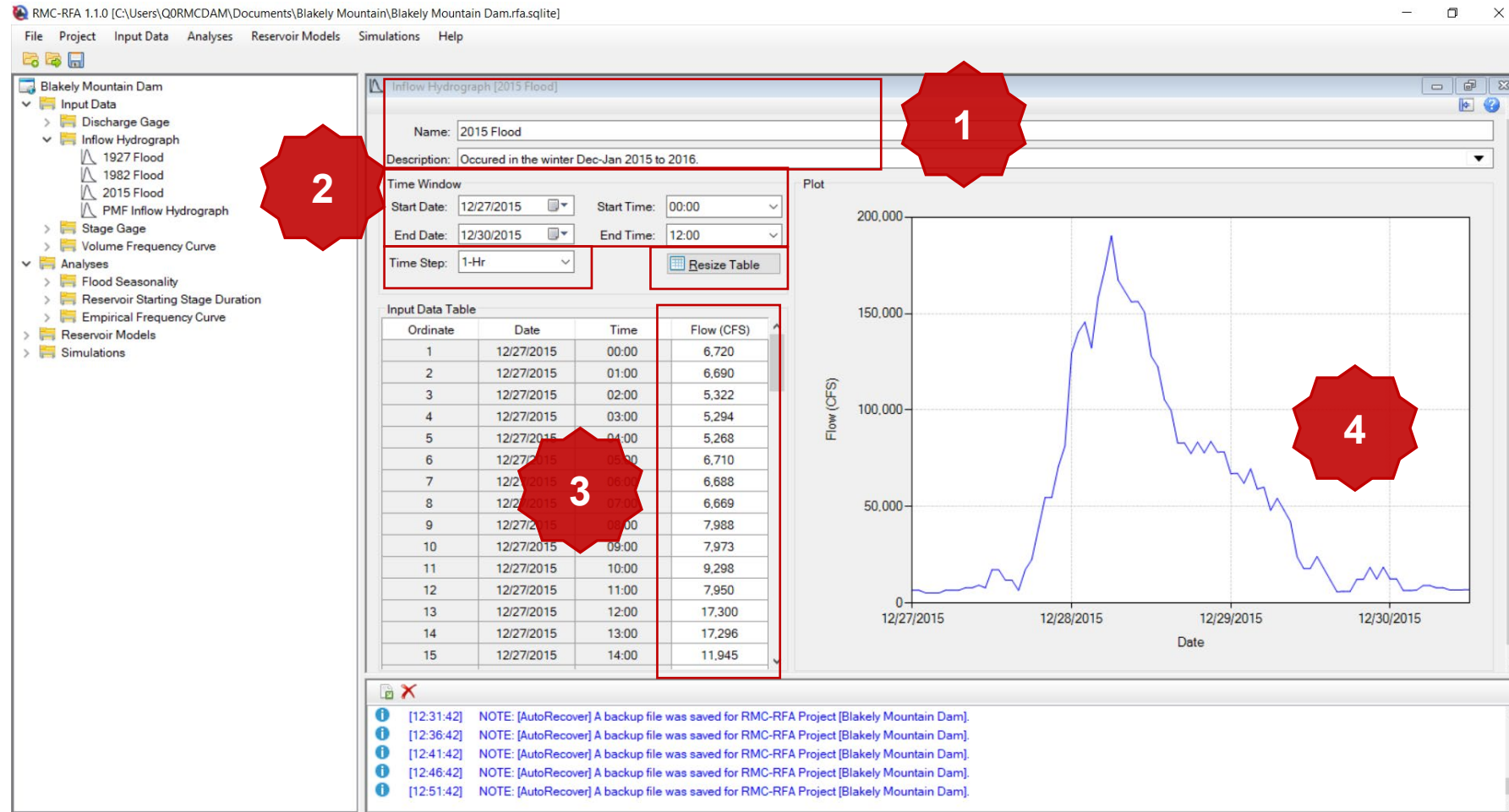
Inflow Hydrograph Shapes Vary



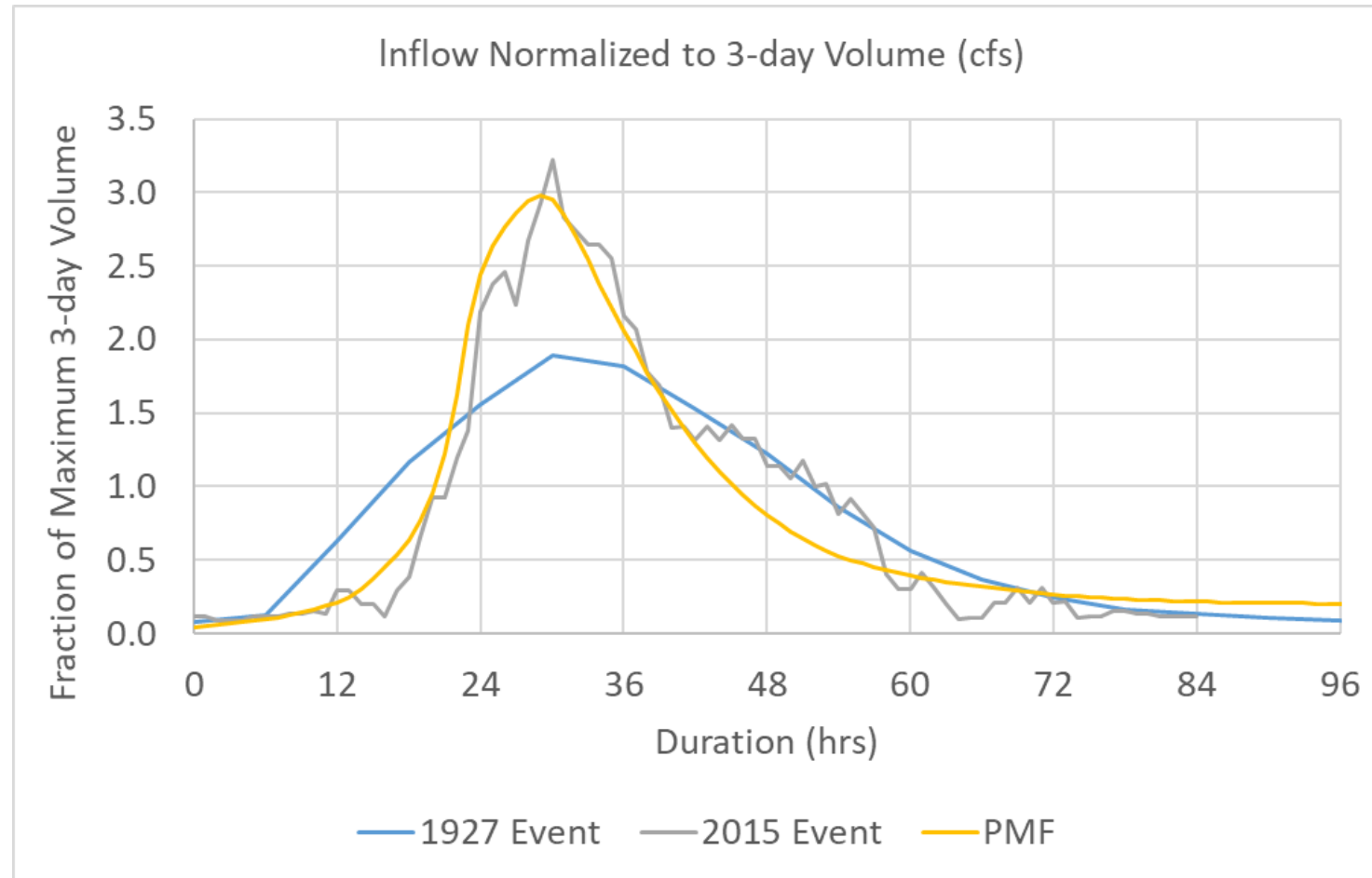
Inflow Hydrograph Data Sources

- Water control manuals
- Water management databases
- Project reports, design memoranda, or other design documents
- Post-flood reports
- USGS Instantaneous Data Archive
- USGS Water-Supply Papers

Inflow Hydrograph Data Input



How RMC-RFA Scales Inflow Hydrographs

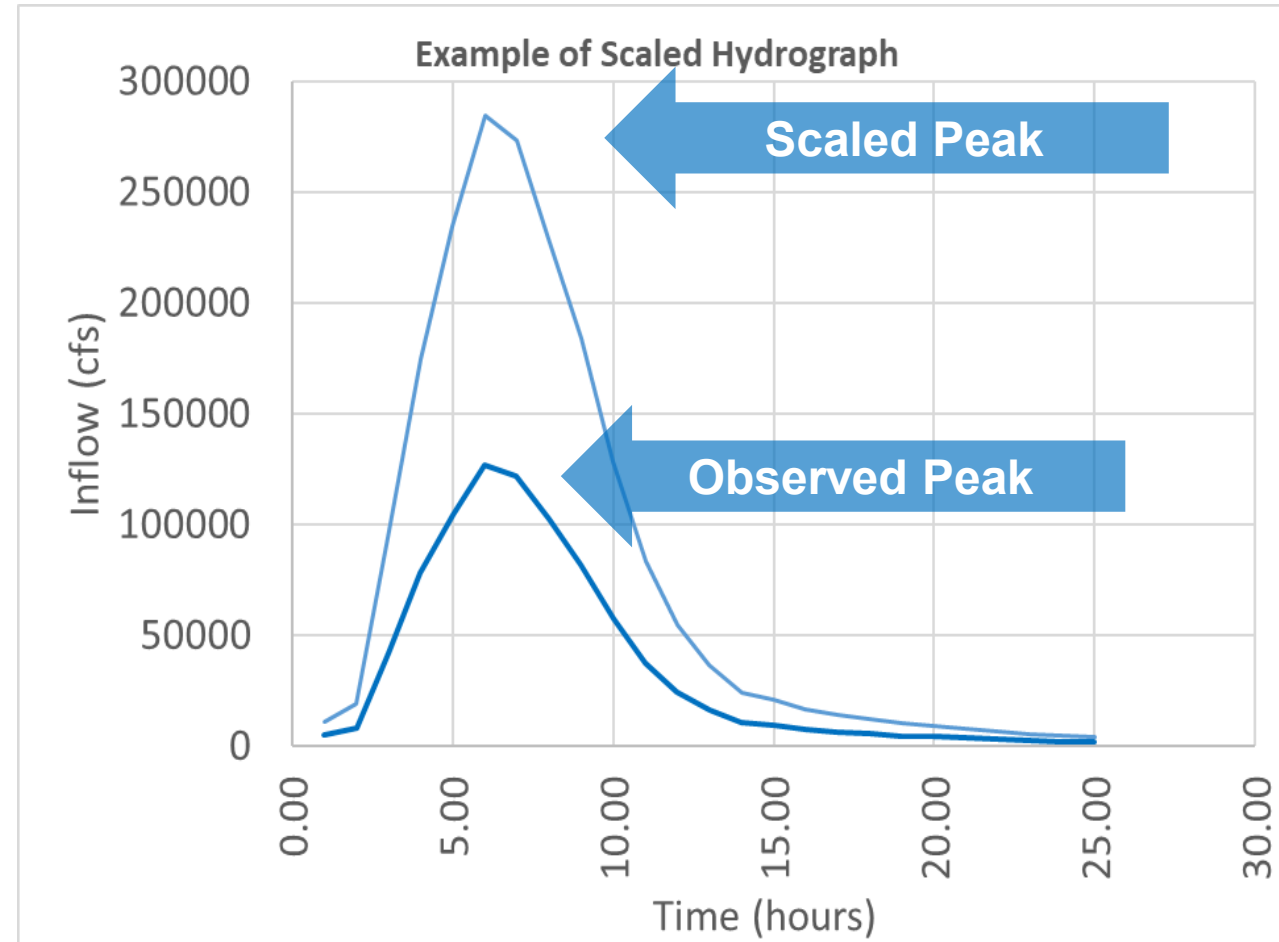


2.2.xlsx

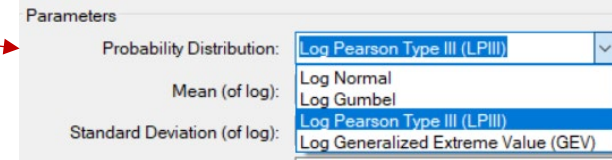
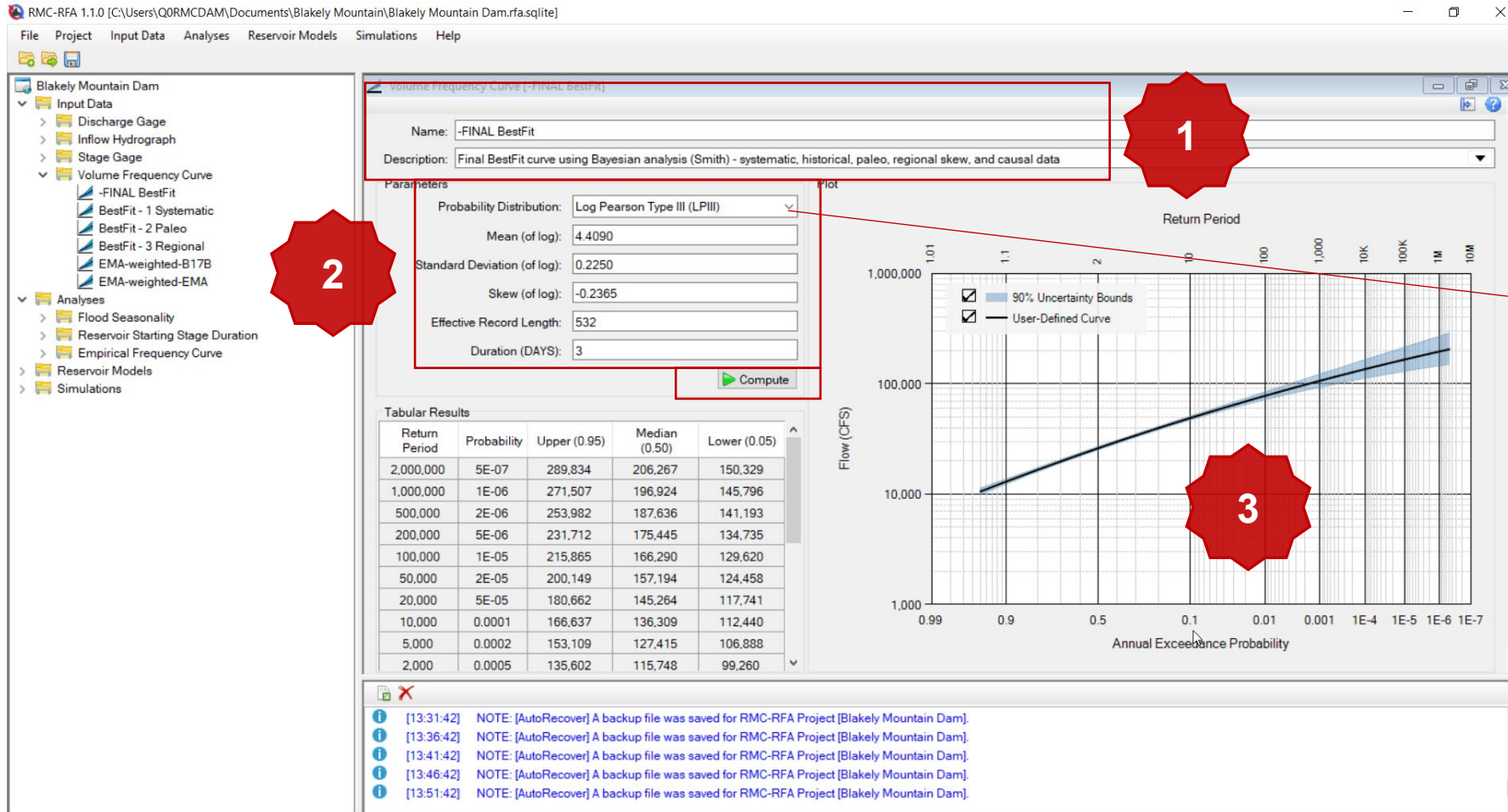
How RMC-RFA Scales Inflow Hydrographs

G17 X ✓ fx =AVERAGE(E6:E17)						
	A	B	C	D	E	F
	Days	Ordinate (Hours)	Date	* Time	Flow	3-day volume
3						
4		1	4/20/1927	0:00	5,000	
5		2	4/20/1927	6:00	8,387	
6		3	4/20/1927	12:00	41,963	
7	1	4	4/20/1927	18:00	77,922	
8		5	4/21/1927	0:00	104,441	
9		6	4/21/1927	6:00	126,786	
10		7	4/21/1927	12:00	121,766	
11	2	8	4/21/1927	18:00	102,177	
12		9	4/22/1927	0:00	81,899	
13		10	4/22/1927	6:00	57,290	
14		11	4/22/1927	12:00	37,288	
15	3	12	4/22/1927	18:00	24,383	65,775
16		13	4/23/1927	0:00	16,242	66,712
17		14	4/23/1927	6:00	10,592	66,896
18		15	4/23/1927	12:00	9,184	64,164
19	4	16	4/23/1927	18:00	7,412	58,288
20		17	4/24/1927	0:00	6,162	50,098
21		18	4/24/1927	6:00	5,345	39,978
22		19	4/24/1927	12:00	4,617	30,216
23	5	20	4/24/1927	18:00	4,036	22,038
24		21	4/25/1927	0:00	3,455	15,501
25		22	4/25/1927	6:00	2,884	10,967
26		23	4/25/1927	12:00	2,422	8,061
27	6	24	4/25/1927	18:00	2,047	6,200
28		25	4/26/1927	0:00	1,732	4,991
29						

1) Maximum Volume



Volume Frequency Curve



? Questions

