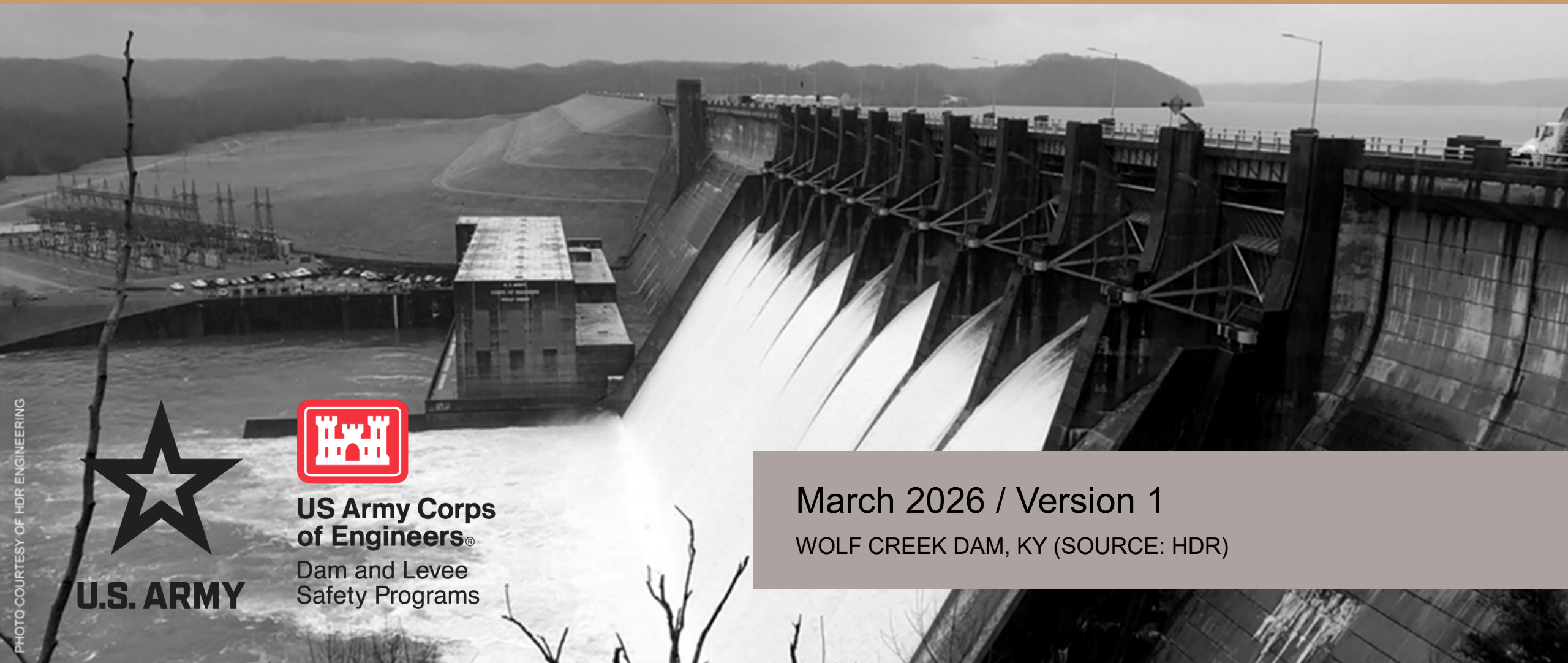
BestFit Exercise Overview

DLS-114, Module 1.25



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WOLF CREEK DAM, KY (SOURCE: HDR)

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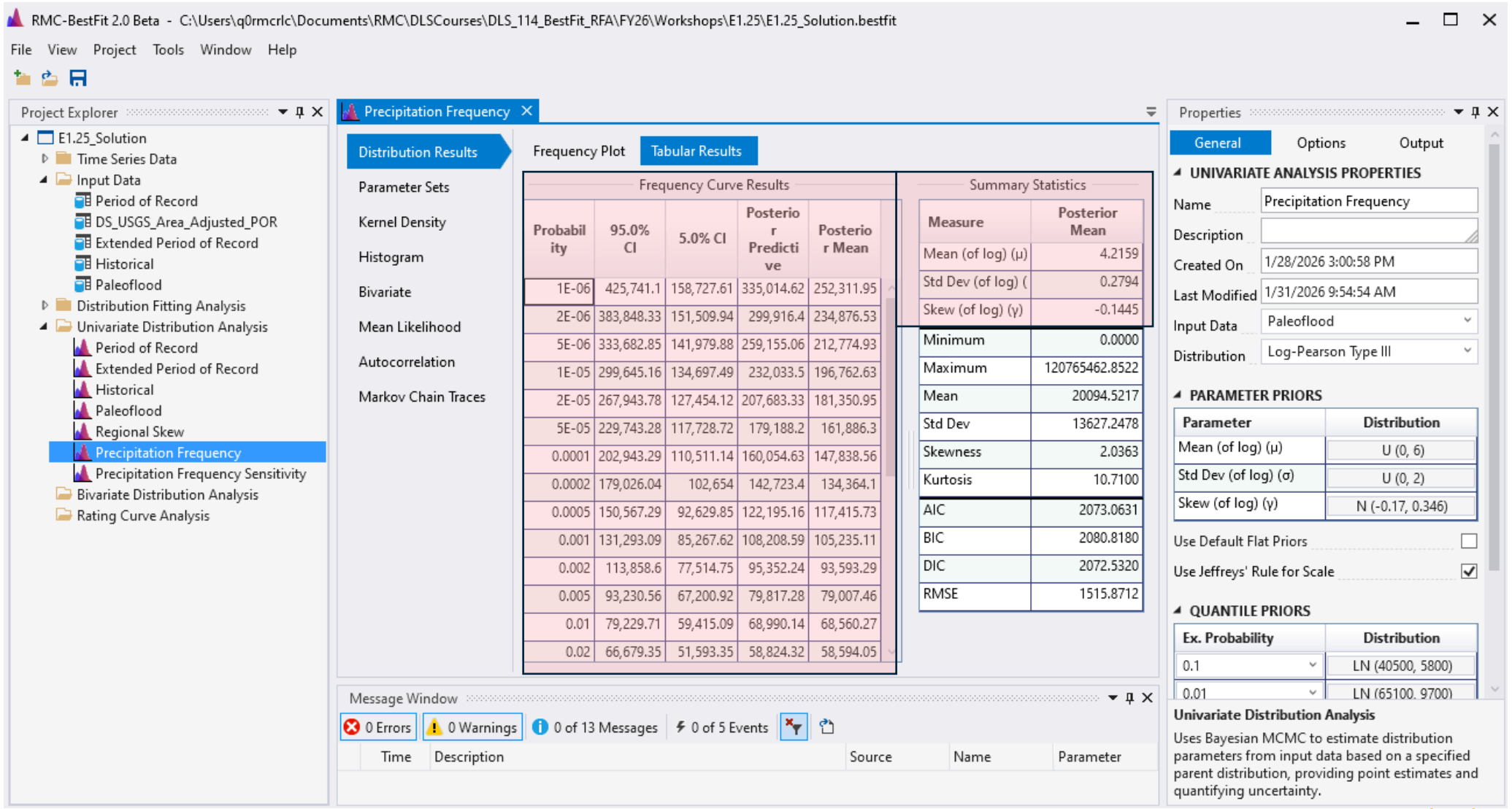
Tasks

1. Estimate pseudo-ERL for a dataset
2. Compare effective record length estimates for different datasets

Additional Tasks

3. Estimate the pseudo-ERL for multiple datasets

Task 1 – Estimate Pseudo-ERL (1 of 2)



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Task 1 – Estimate Pseudo-ERL (2 of 2)

Step 1: Enter the input parameters for the analysis

Input Parameter	Value
Mean of Log_{10} (μ)	4.2159
Standard Deviation of Log_{10} (σ)	0.2794
Skew of Log_{10} (γ)	-0.1445
Effective Record Length (Years)	

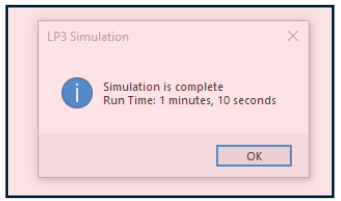
Step 5: Run the simulation

Click Here to RUN SIMULATION

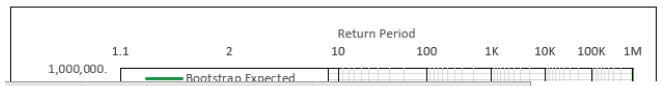
◄ Progress is displayed on the application status bar in the lower left corner

Step 6: Output table

4-Day Volume (cfs)						
Z	Return Period	AEP	Upper 95%	Expected	Computed	Lower 5%
4.753	1,000,000	1E-06	428,000.	339,000.	269,000.	173,000.
4.611	500,000	2E-06	385,000.	304,000.	249,000.	164,000.
4.417	200,000	5E-06	334,000.	263,000.	223,000.	152,000.
4.265	100,000	1E-05	299,000.	235,000.	205,000.	143,000.
4.107	50,000	2E-05	267,000.	210,000.	188,000.	134,000.
3.891	20,000	5E-05	228,000.	181,000.	166,000.	122,000.
3.719	10,000	1E-04	202,000.	162,000.	151,000.	113,000.
3.540	5,000	2E-04	178,000.	144,000.	136,000.	105,000.
3.291	2,000	5E-04	149,000.	122,000.	118,000.	93,800.
3.090	1,000	0.001	129,000.	108,000.	105,000.	85,600.
2.878	500	0.002	112,000.	94,700.	93,100.	77,600.
2.576	200	0.005	90,800.	78,800.	78,100.	67,200.
2.326	100	0.01	76,800.	67,800.	67,500.	59,300.
2.054	50	0.02	64,100.	57,700.	57,600.	51,700.
1.645	20	0.05	49,100.	45,200.	45,200.	41,600.
1.282	10	0.1	39,000.	36,400.	36,400.	34,000.
0.842	5	0.2	29,600.	27,900.	27,900.	26,300.
0.000	2	0.5	17,700.	16,700.	16,700.	15,900.
-0.842	1.25	0.8	10,600.	9,940.	9,930.	9,360.
-1.282	1.11	0.9	8,090.	7,540.	7,540.	7,020.



Step 7: Output Chart



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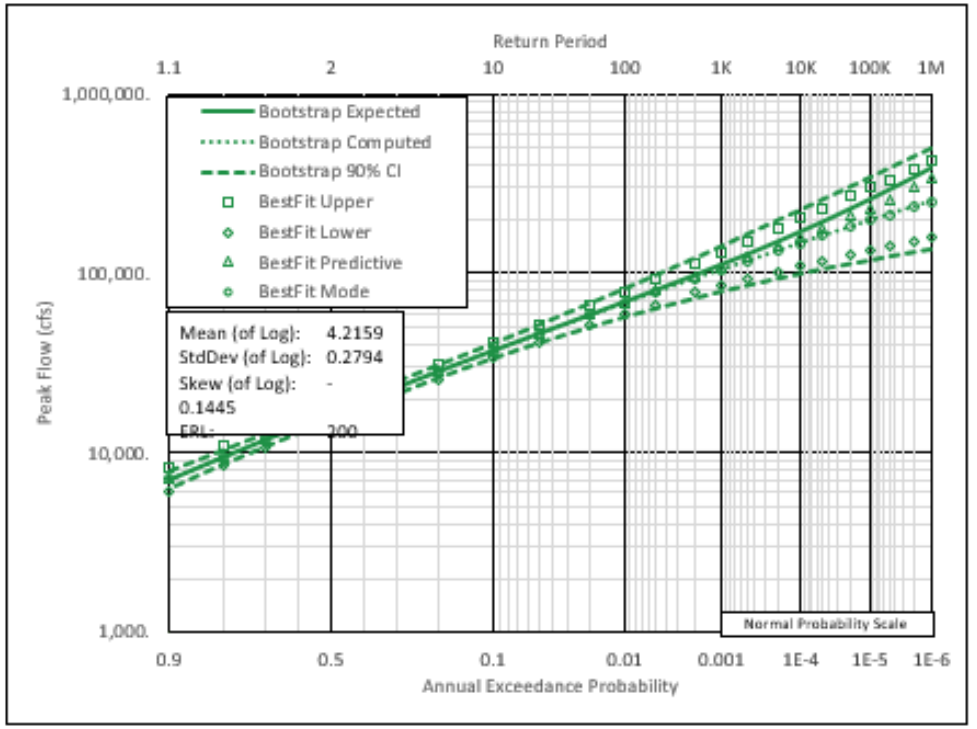
dy 16 of 34 records found Calculate

Step 7: Output Chart



Click Here to COPY CHART TO CLIPBOARD

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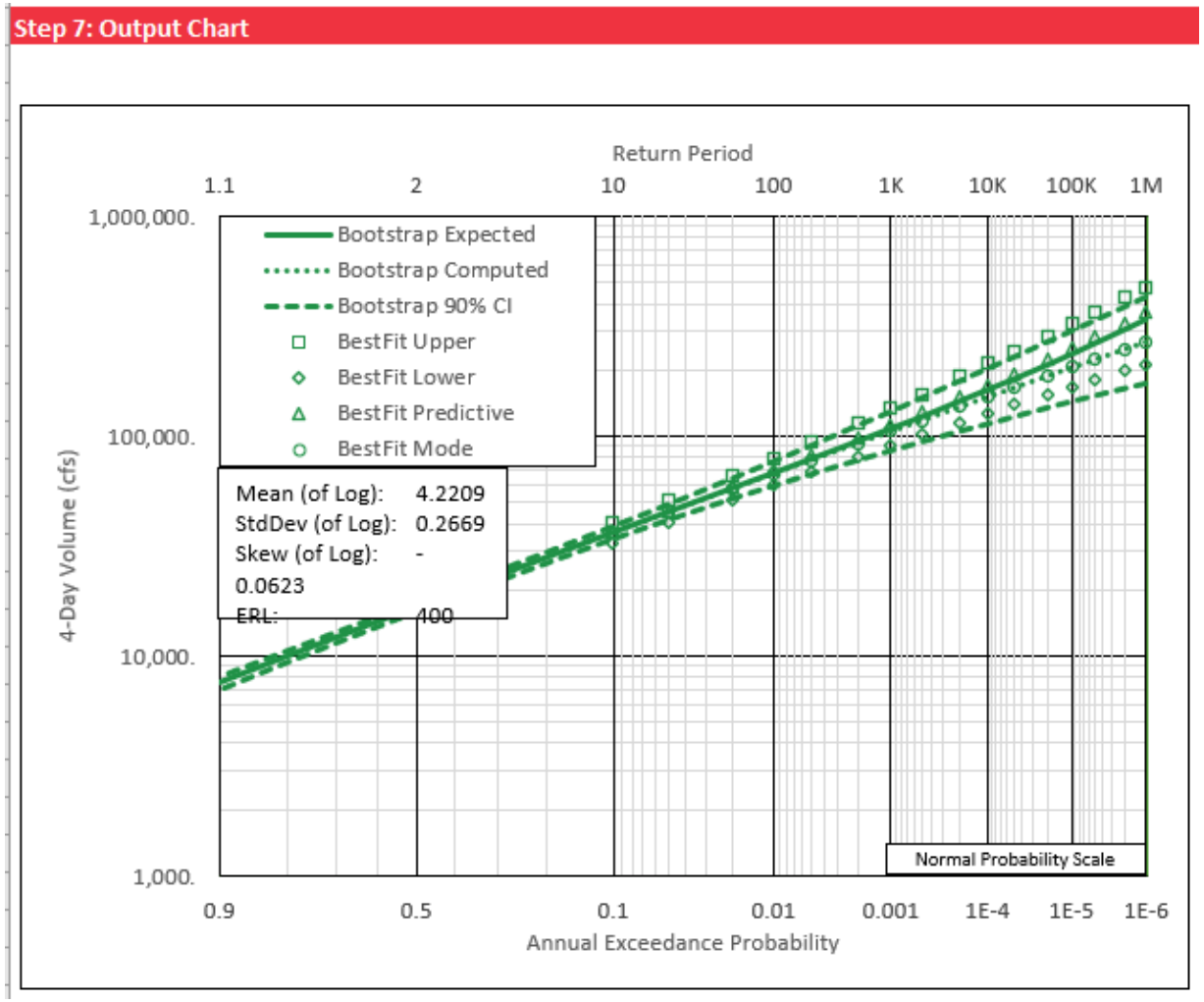
Task 2 – Compare Pseudo-ERL Estimates

Simulation	pERL (years)
Systematic	80
Historic	135
Paleoflood	155
Regional Skew	170
Precipitation Frequency	

Additional Tasks

Task 3 – Estimate Pseudo-ERL for Other Datasets and Compare to Previous Table



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Questions