

Perception Threshold Data

DLS-114, Module 1.9



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March 2026 / Version 1

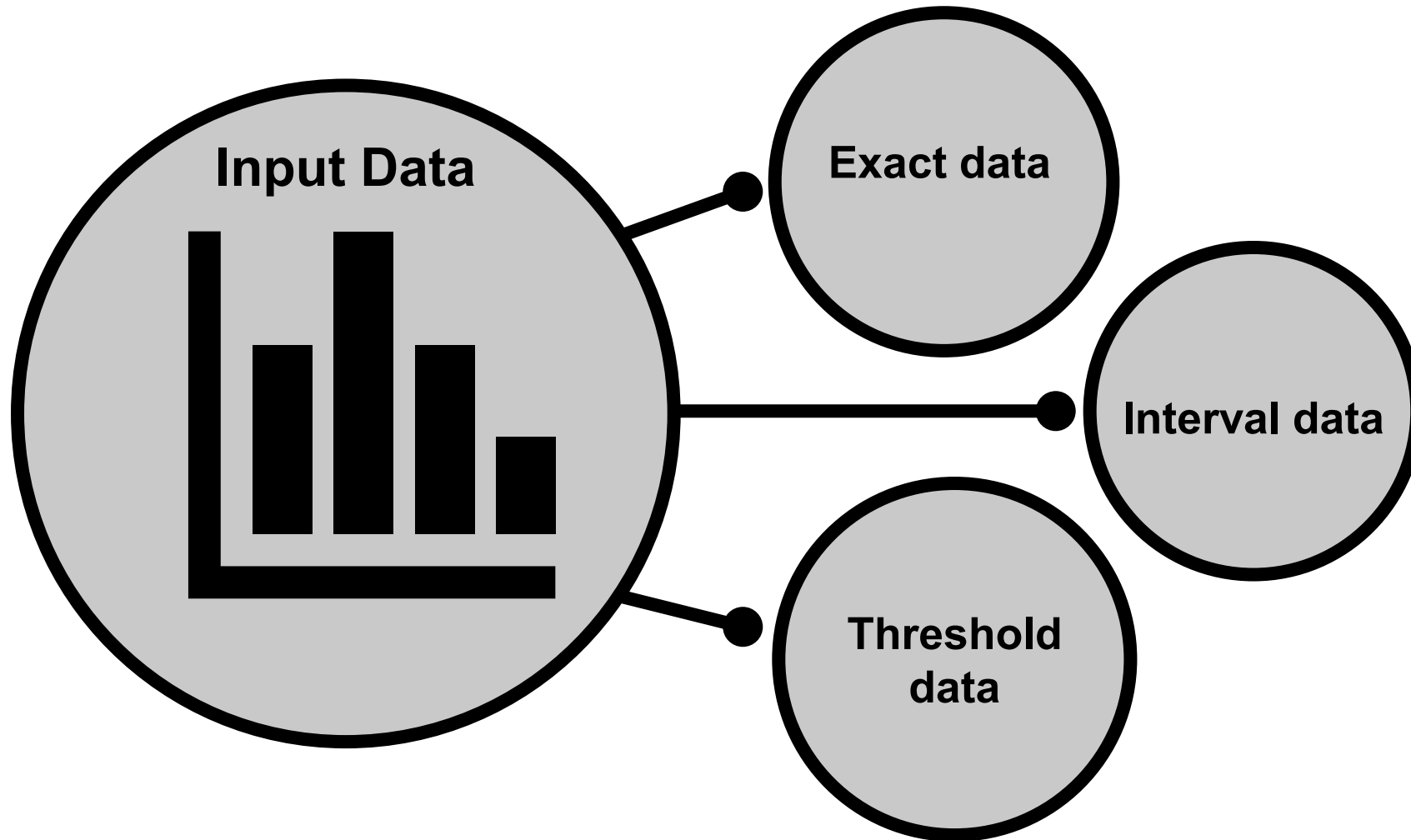
BONNEVILLE, OR (SOURCE: HDR)

Learning Objectives

- Define perception threshold concept
- Determine when to use perception thresholds
- Demonstrate how to enter perception threshold into RMC-BestFit
- Review strategies for defensible thresholds

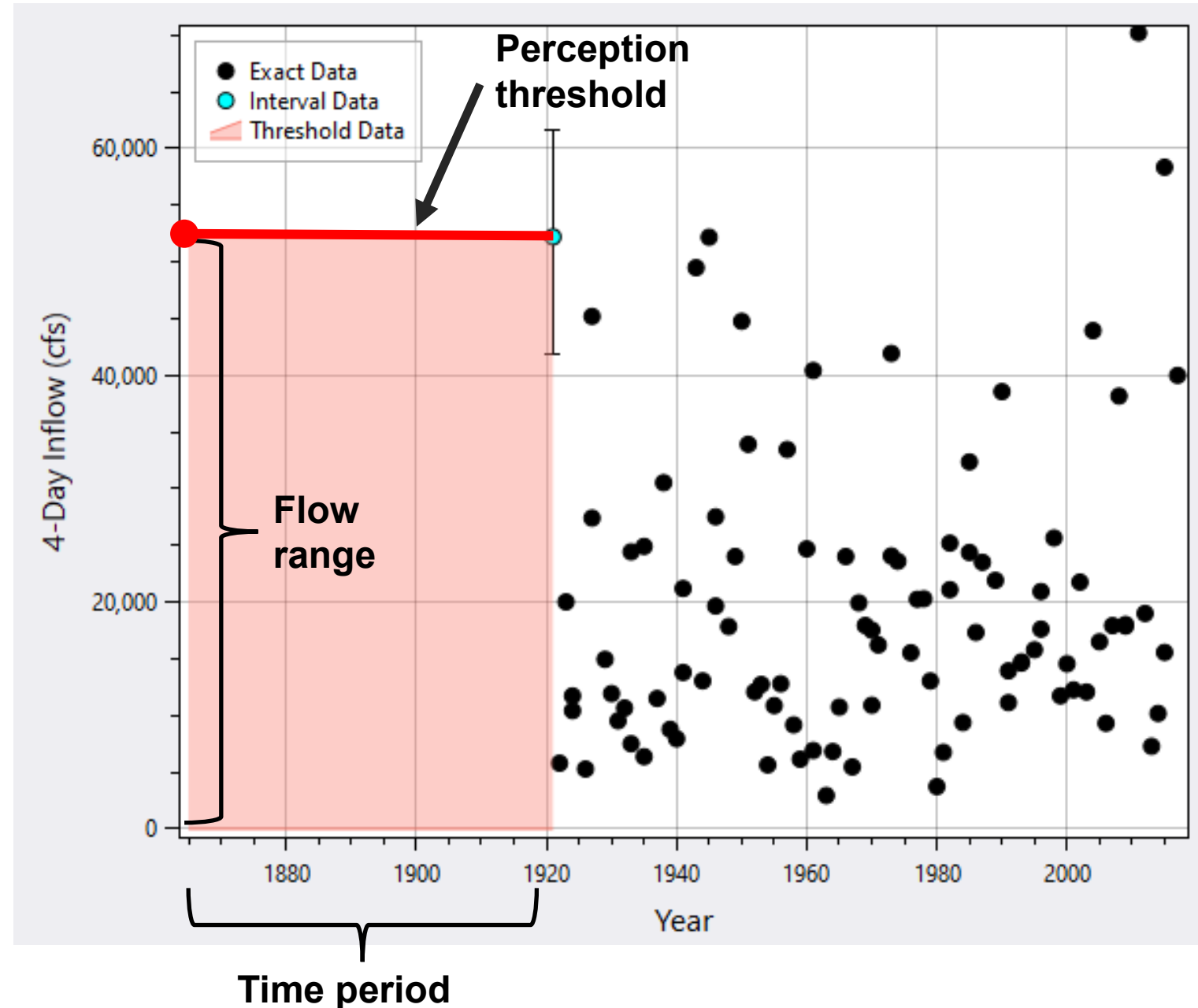


Input Data



What is a Perception Threshold?

- Unobserved floods
- Did not exceed threshold
- Range of flows
- Time period

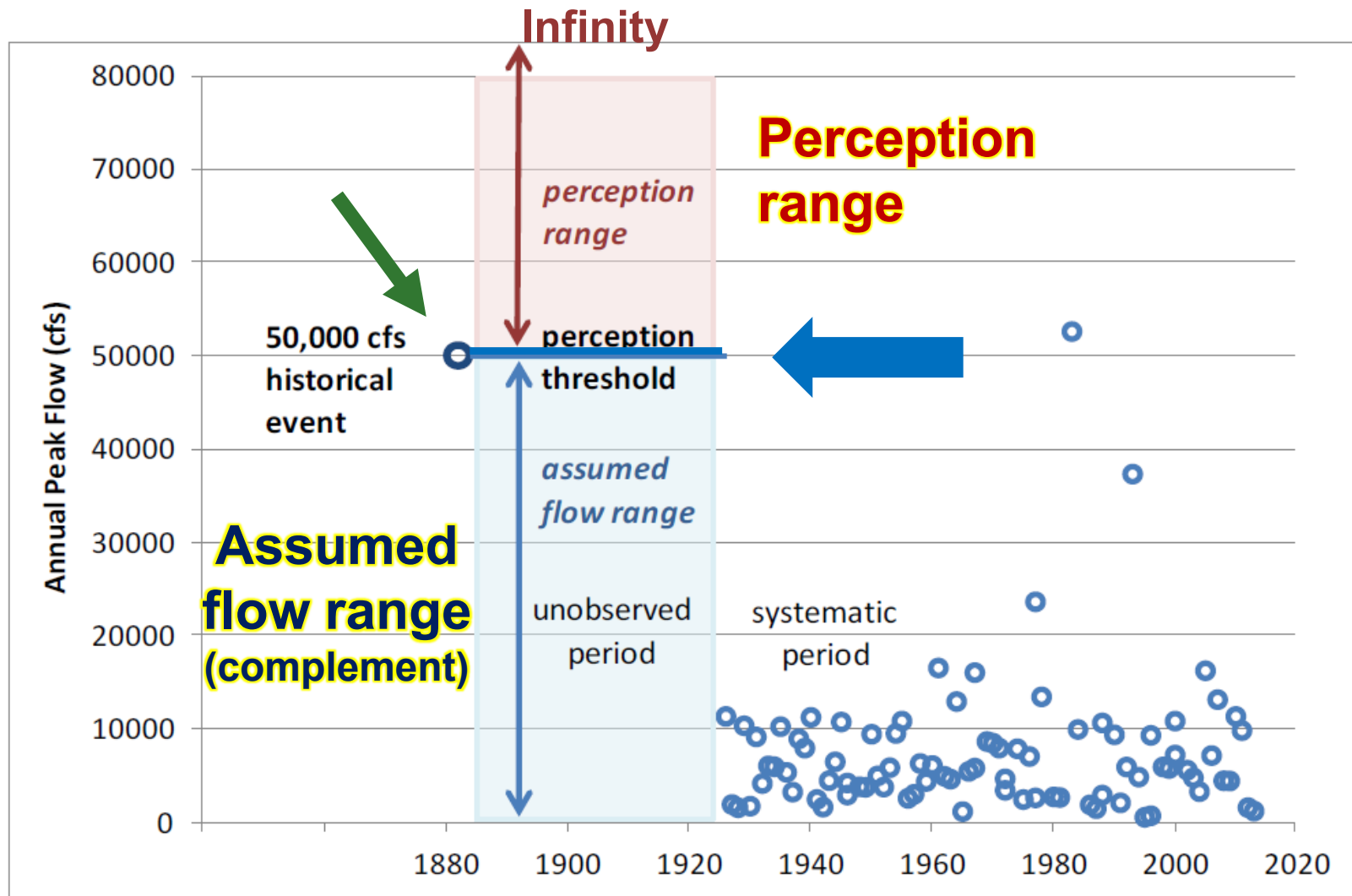


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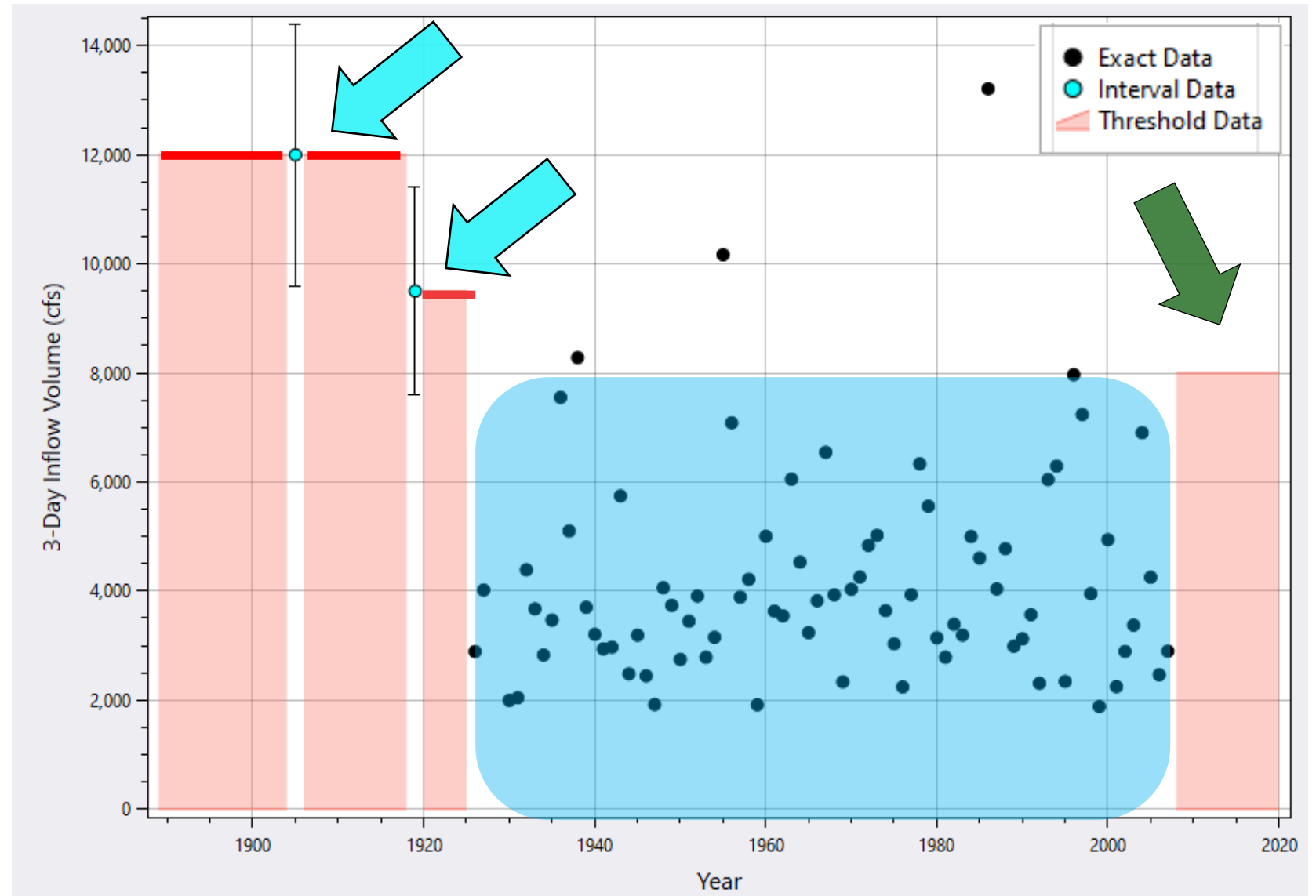
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Chronology Plot



When are Thresholds Used?

- Unobserved floods



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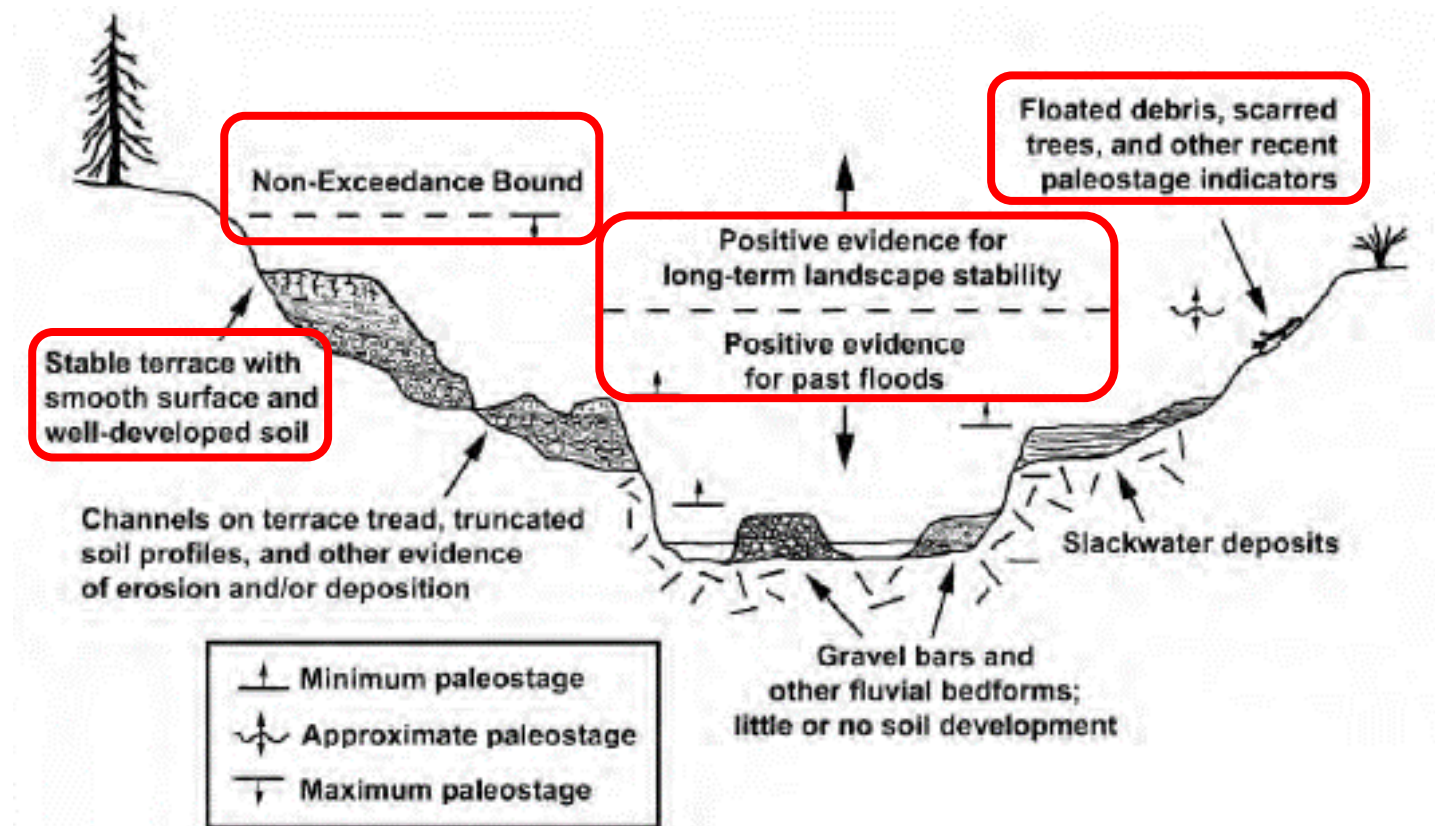


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When are Perception Thresholds Used?

- Paleoflood non-exceedance bound (NEB)





Project Explorer

- DLS114_2026_BestFit2
 - Time Series Data
 - Daily_Inflow
 - DS_USGS_Daily_Inflow
 - DS_USGS_Daily_Inflow_Area_Adjusted
 - Input Data
 - Period of Record
 - DS_USGS_Area_Adjusted_POR
 - Extended Period of Record
 - Historical
 - Paleoflood**
 - Distribution Fitting Analysis
 - Period of Record
 - Extended Period of Record
 - Historical
 - Paleoflood
 - Univariate Distribution Analysis
 - Period of Record
 - Extended Period of Record
 - Historical
 - Paleoflood
 - Regional Skew
 - Precipitation Frequency
 - Precipitation Frequency Sensitivity
 - Bivariate Distribution Analysis
 - Rating Curve Analysis

Historical

Paleoflood

Precipitation Frequency

Regional Skew

Paleoflood

Historical

Extended Period of Record

Period of Record

Historical

Data Frame

Exact Data

Uncertain Data

Interval Data

Threshold Data

Summary Statistics

Hypothesis Tests

Seasonality Plot

Density Plot

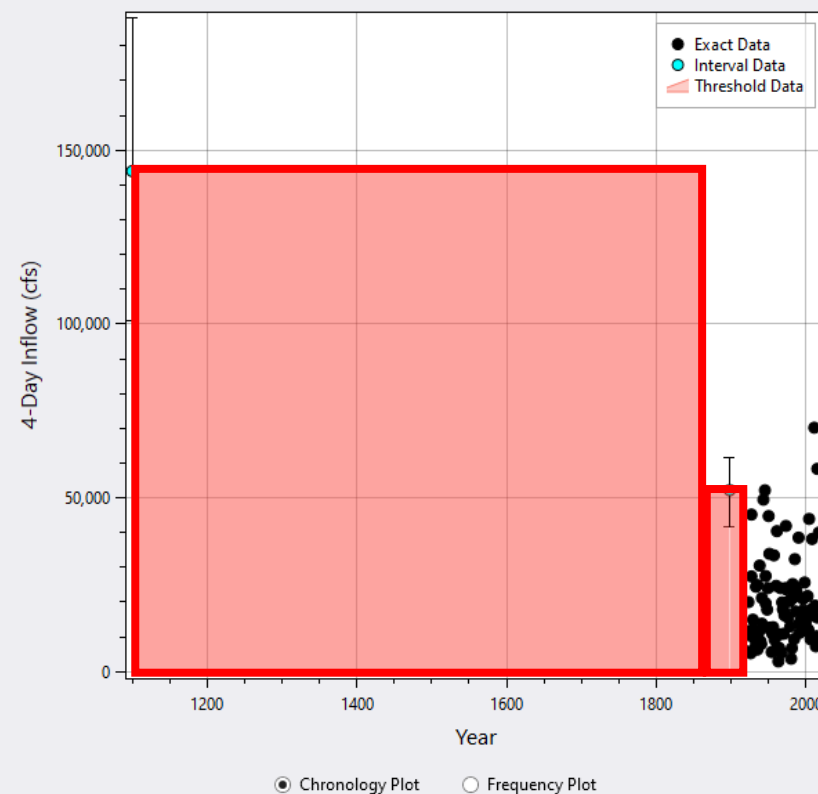
Histogram Plot

Normal Q-Q Plot

ACF Plot

PACF Plot

Start Index	End Index	Value	No. Above
1101	1864	144,000	0
1865	1897	52,200	0
1899	1921	52,200	0



Message Window

0 Errors 0 Warnings 0 of 12 Messages 0 of 5 Events

Properties

INPUT DATA PROPERTIES

Name Paleoflood
 Description 4-Day Average
 Created On 1/28/2026 3:48:45 PM
 Last Modified 1/29/2026 4:19:58 PM
 Unit Label 4-Day Inflow (cfs)
 Index Label Year

EXACT DATA OPTIONS

Data Entry Method Manual Entry
 Period 4

PLOTTING POSITIONS

Parameter Weibull ($\alpha = 0.0$)

LOW OUTLIER TEST

Multiple Grubbs-Beck Test ☒
 Threshold Value 0

Run Test

Index Label

Specifies the index units, e.g., Year, Month, etc.



Defensible Thresholds (1 of 2)

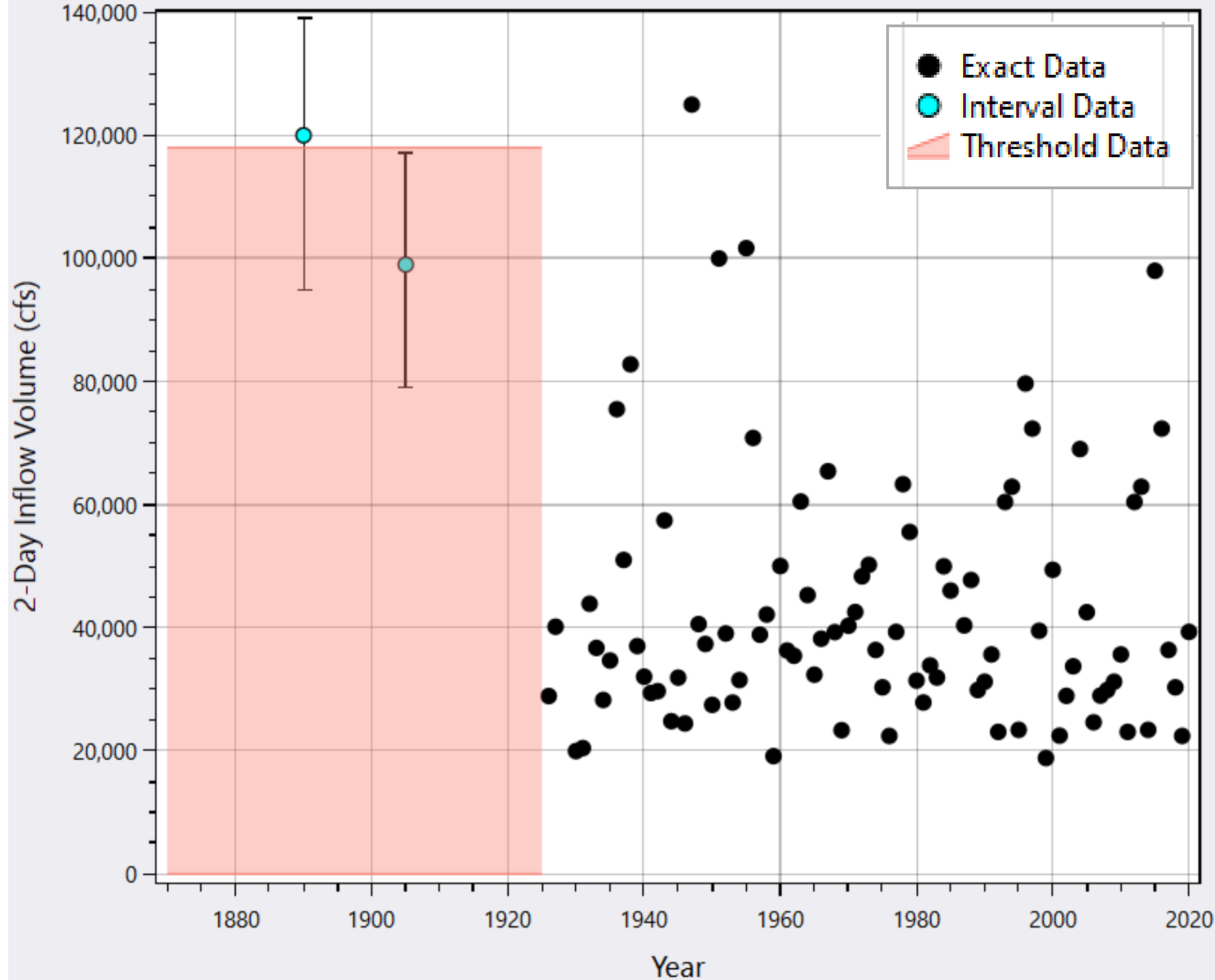
- Unobserved flood during periods of missing data
- Direct based on a physical feature
- Indirect based on largest observed flood(s)
 - Use best estimate of historic flood
- Avoid overlapping systematic or interval data
- Less is more

Defensible Thresholds (2 of 2)

- Evidence
- Engineering judgment
- Sensitivity analysis
- Document rationale

Knowledge Check (1 of 2)

What can we improve?



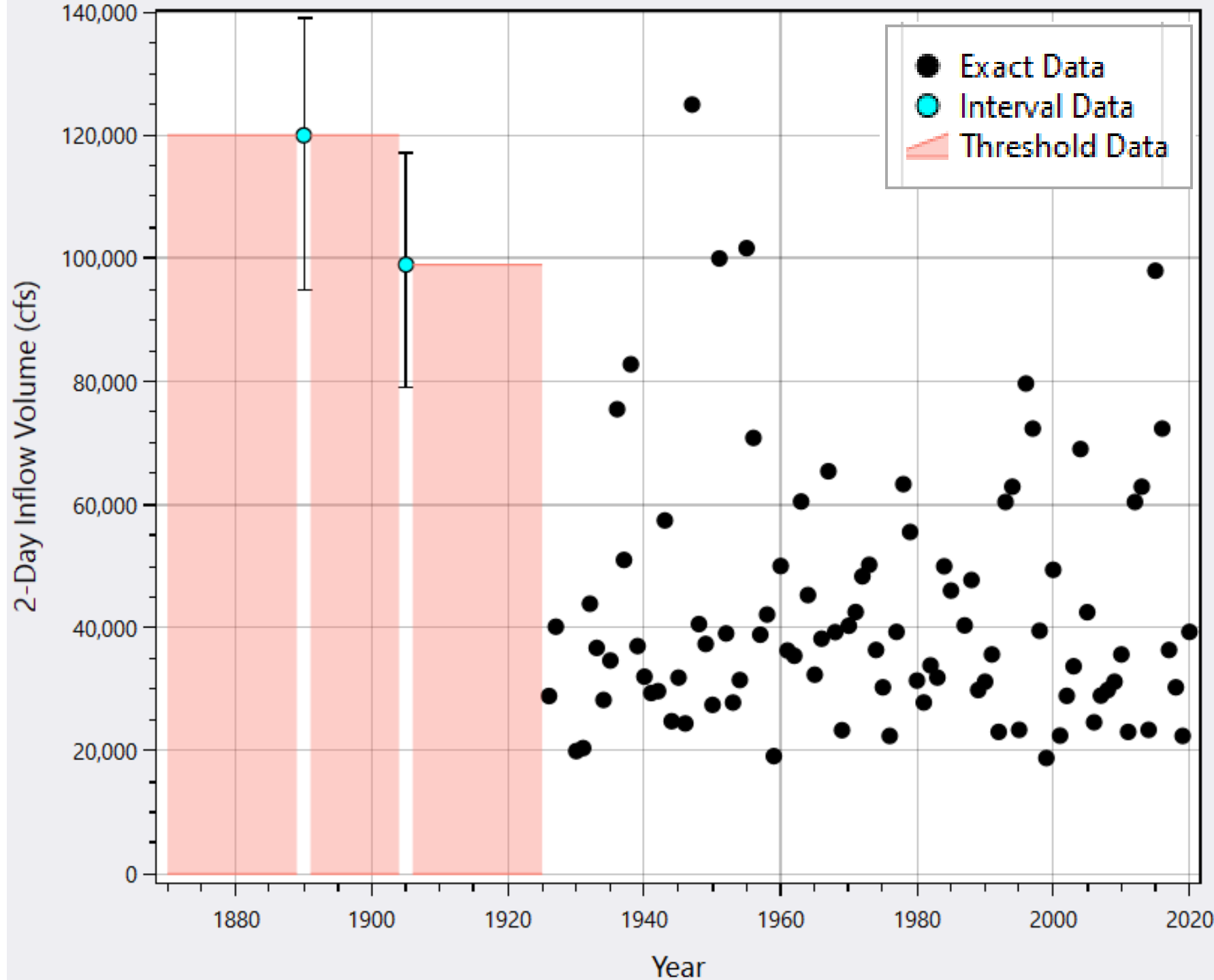
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Knowledge Check: **Answer** (1 of 2)

Corrected
perception thresholds



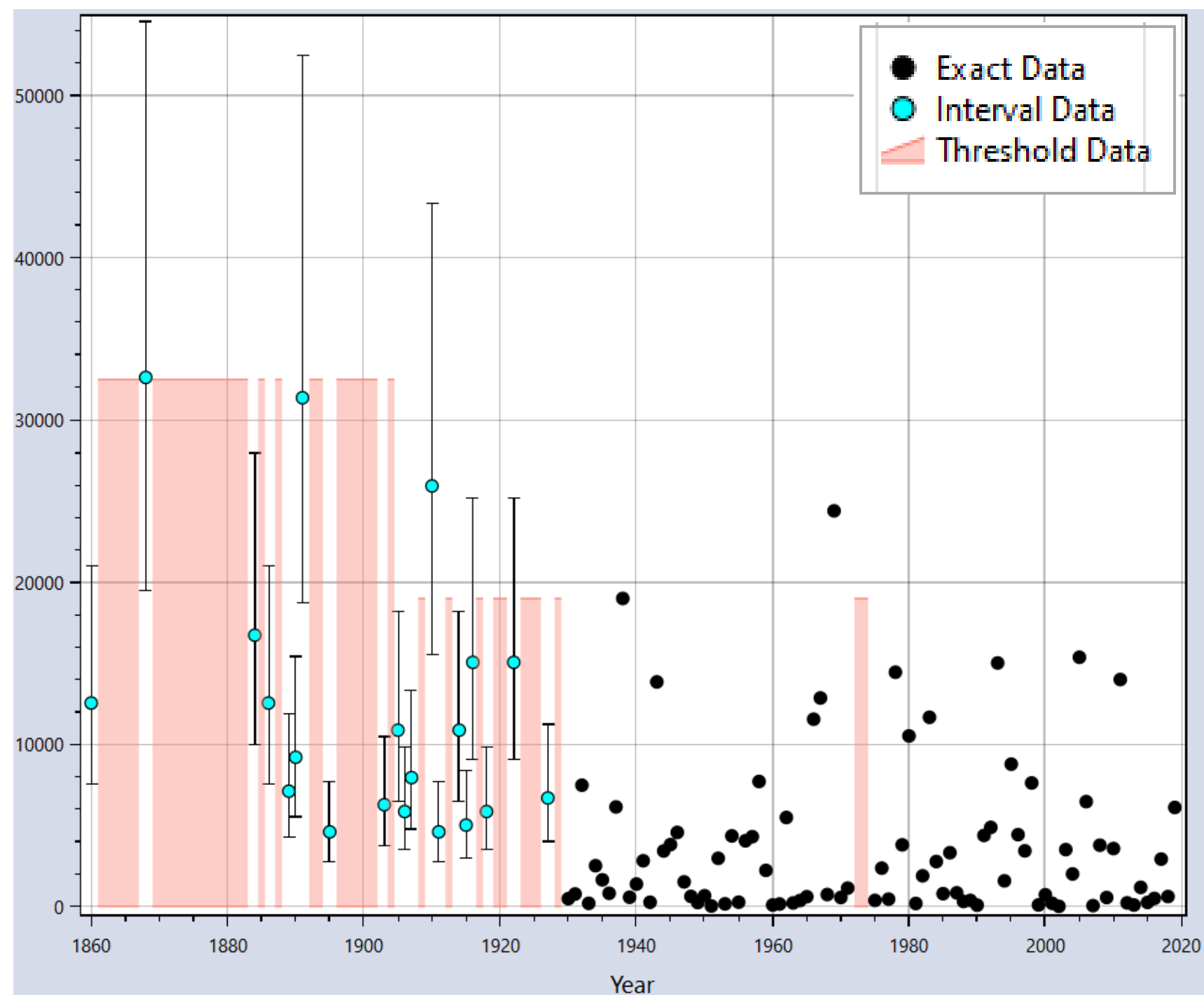
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Knowledge Check (2 of 2)

What can we improve?



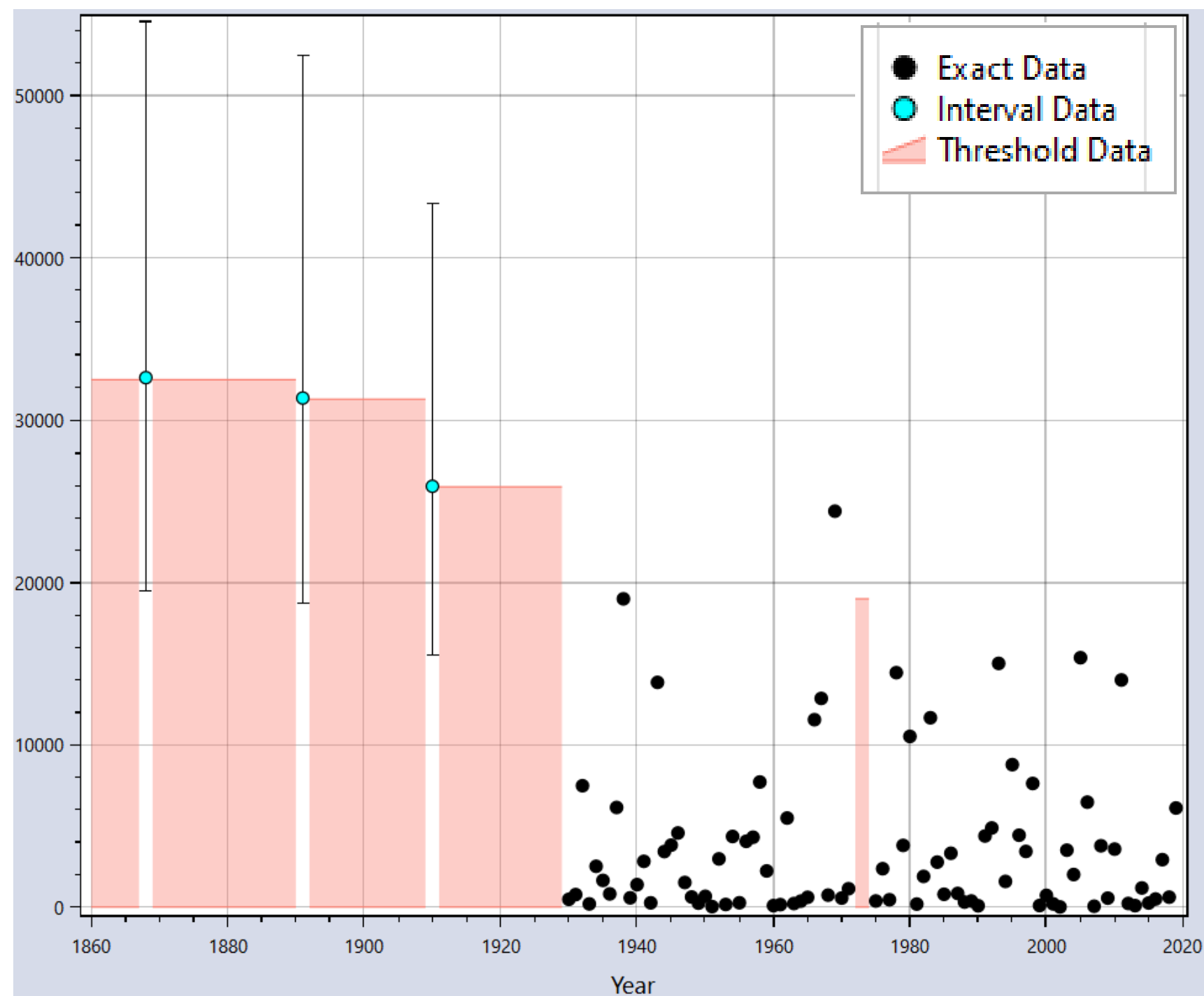
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Knowledge Check: **Answer** (2 of 2)

Corrected
perception thresholds



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? Questions

