Lab 9: Quantile Mapping Implementation

Empirical and parametric quantile mapping, bias correction validation, correlation preservation challenges

CEVE 543 Fall 2025

2025-10-31

1 Objectives

1. Implement empirical and parametric quantile mapping
2. Apply bias correction to temperature and precipitation for hydrological modeling
3. Validate bias correction methods statistically
4. Understand correlation preservation challenges

2 Before

> ! Instructions
>
> Do this before the lab date so that lab itself can go more smoothly.

3 Background and Reading

4 Tasks

Modify the code section below to address the following tasks.

1. Implement both empirical and parametric quantile mapping approaches
2. Apply bias correction to temperature and precipitation data
3. Validate bias correction methods using statistical assessments
4. Force hydrological models with bias-corrected climate data and assess performance

5 Code

Bibliography