# SPATIALLY DISTRIBUTED DATASETS

ERT 474/574

Open-Source Hydro Data Analytics

Oct 8th 2025

University at Buffalo The State University of New York

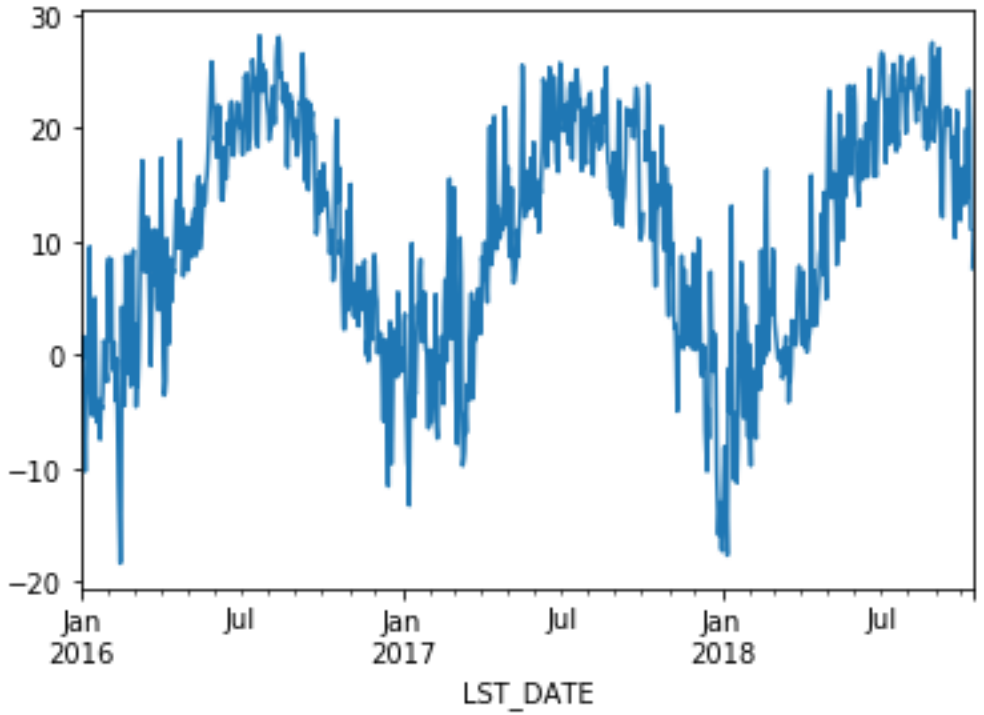
# Announcement

- Midterm
  - Time: In class Oct 20th, 2025 (Monday)
  - Length: 50 minutes
  - Format: Open book coding (No communication is allowed)
  - Covered range: Everything until Wednesday's (Oct 8th) lecture

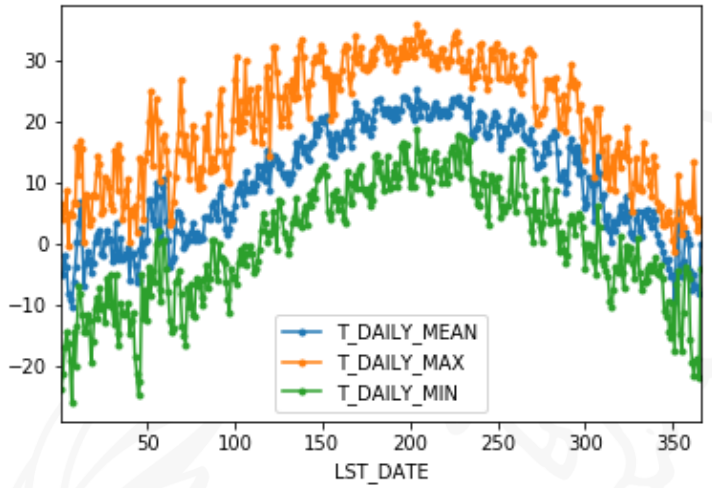
# Announcement

- Homework 4
  - Part 1: Finish all exercises in Lab 10 (3 exercises) and Lab 11 (5 exercises) [20 points]
  - Part 2: Choose a plot or map figure that you find compelling, insightful, or visually effective. This can be from a scientific paper or a science report (as long as it's relevant to geological science, hydrology, or civil engineering). You will present this figure briefly in class and explain why you like it. [10 points]
    - **Select a figure** (plot, map, infographic, or data visualization)
    - **Prepare a short explanation (2–3 minutes, What does the figure show? Why do you like it? What makes it effective or memorable? Is there anything you would improve?)**
    - **Submit the figure**
      Upload the figure (or provide a link) to the UB Learns before 12 PM on Oct 15, 2025
    - **Present in class**

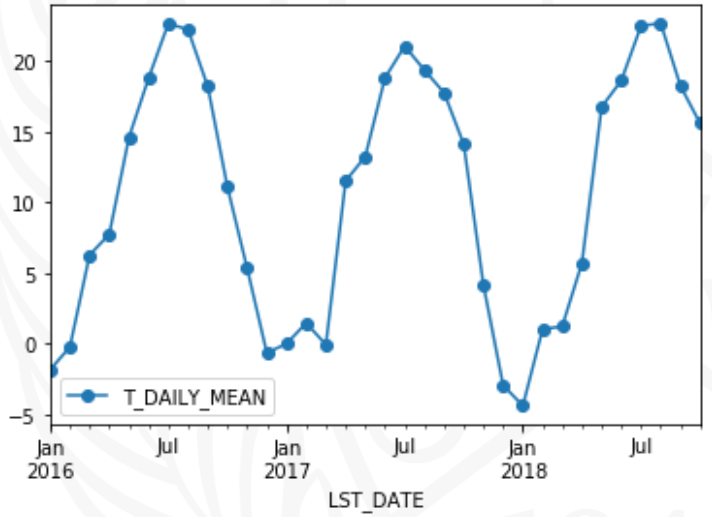
# Groupby versus Resample




Groupby




Resample



# How to calculate 7Q10?

- https://github.com/OS-Hydro-Analytics-Fall-2025/CourseMaterials25/blob/main/coding_modules/lab7_python_PDF_CDF_extremes.w_result.ipynb