Smoothing hourly water level measurements using a moving average helps to reduce noise and highlight more significant trends in the data over time. This is particularly important for a dataset covering an entire year, as short-term fluctuations can obscure long-term patterns. By averaging the data over a set window of days, we can better observe gradual changes in water levels, making it easier to identify trends and seasonal variations. Incorporating a slider in a Shiny app allows users to dynamically adjust the window size for the moving average, making it convenient to experiment with different time ranges and find the best balance between smoothing out noise and preserving important features in the data. This interactive feature enhances user control and facilitates data exploration and analysis.