Manuscript

Sandra Jaskowiak

2025-09-16

Introduction

Climate change has been of major concern globally, particularly in recent years. from 1905 to 2000, climate change has caused significant changes in Lake Mendotas (Magee and Wu 2016). As temperatures have warmed, ice duration has decreased over time and a trend towards earlier ice melt dates have been identified (Ghanbari et al. 2009).

In this paper we will compare average ice duration in two lakes: Lake Mendota and Lake Monona.

Results

The following are figures generated based on the data

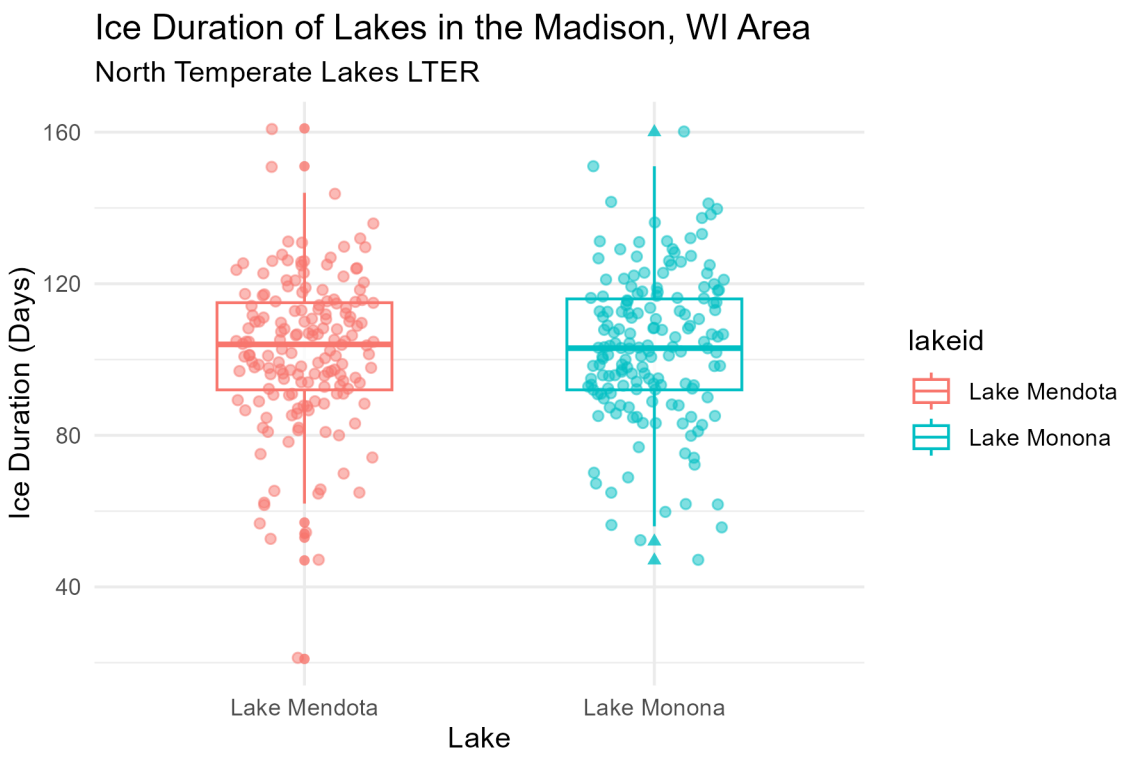

Figure 1: Comparison of average ice duration in Lake Mendota and Lake Monona

A t-test found no significant difference (t = -0.56725, df = 328.98, p-value = 0.5709) for mean ice duration between the two lakes in the years 1852 and 2019.

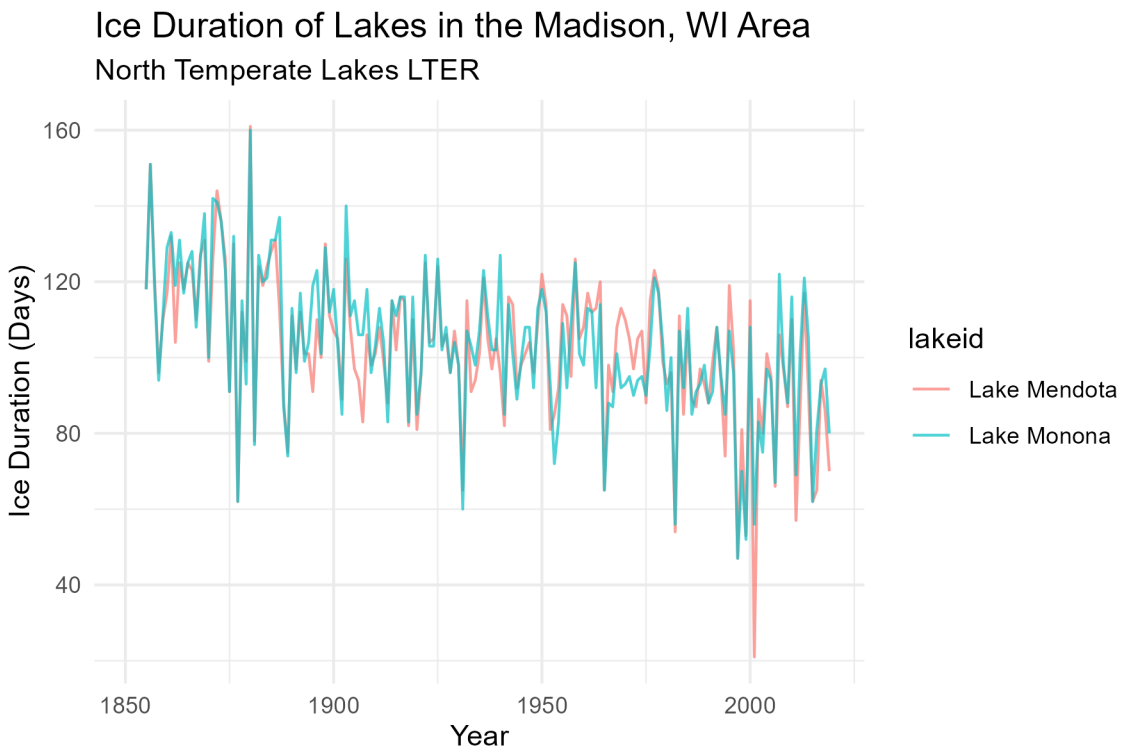

Figure 2: Ice duration trend through time in Lake Mendota and Lake Monona

References

Ghanbari, R. N., H. R. Bravo, J. J. Magnuson, W. G. Hyzer, and B. J. Benson. 2009. Coherence between lake ice cover, local climate and teleconnections (Lake Mendota, Wisconsin). Journal of Hydrology 374:282–293.

Magee, M. R., and C. H. Wu. 2016. Effects of changing climate on ice cover in three morphometrically different lakes.