Impact of salinization on mixing in Lake Mendota and Lake Monona

A) In-situ observational dynamics

- Lake Monona
- Lake Mendota

Chloride (mg L^{-1})

Deployed EC and temp buoy

idealized conditions — *study site conditions*
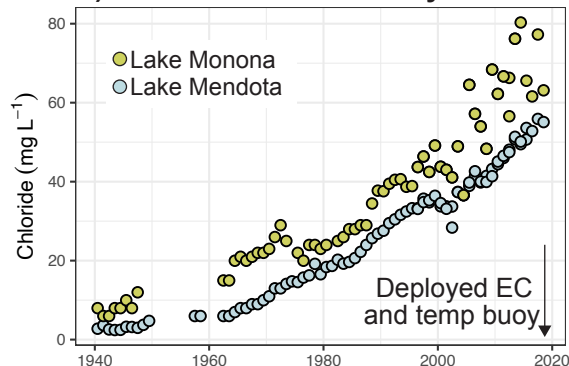
B) Analytical solution

- Add salt to deep layers during spring
- When are stabilizing ≥ kinetic forces?

wind

β

metalimnion depth zm

center of volume

water temperature

water density
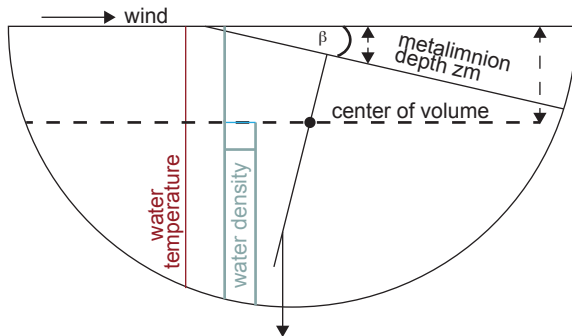
C) Numerical solution

- Calibrate ensemble of hydrodynamic lake models
- Run salinization scenarios

Salt load (g kg^{-1})

Scenario

Background

Null

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec