



Figure S1. Schematic of aggregation procedure for multiple dates and sampling stations (St. 1 and 2) within one theoretical lake during one year. In this example, aggregation of raw sample data would result in 4 data vectors (columns), each characterizing one station in the summer (ice-free) and winter (ice-on) periods. The depths sampled (defined as the photic zone) at each station during ice-free and ice-on periods may differ between aggregates. Note that we allowed for sample  $n$  to differ between periods (e.g., only 2 samples in St. 2 during the ice-on period).