How Does Dissolved Oxygen Content in PPM as Measured by the Winkler Titration Method and Temperature Measured in Celsius Vary Throughout the Summer at Different Depths Measured in Meters in Lake Mendota?

Whiffen, Ella (School: Madison Country Day School)

Dissolved oxygen (DO) and temperature were measured in Lake Mendota at depths of 1, 10, and 20 meters on a weekly basis between June 9th and July 21st during the summer of 2022. Sampling was conducted within 30m of the University of Wisconsin limnology buoy. DO was measured using the Winkler Titration Method. Temperature data of each depth was collected using the buoy. The temperature difference between the depths was greater than 15 degrees celsius. The lowest depth had the least amount of DO and as the summer progressed it decreased. The top depth had the most amount of DO and as the summer progressed it decreased as expected because of increasing surface water temperature. The middle depth had an intermediate amount of DO and as the summer progressed it decreased. The middle layer of the lake declined the most significantly in both absolute and relative change. The absolute changed from around 7 to 1 ppm, relatively losing around 80% of its oxygen over the summer. DO decreased at all depths as anticipated.

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