



LIMNOLOGY 9

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Secchi disc

The Secchi disk measures the light transmittance of water.

It also named as Transparency

Its unit is meters or cm.

- The light transmittance can be determined by measuring the light intensity at various depths or with the help of a simple standard disc.
- Secchi disc, is 20 cm in diameter and white. The disc is lowered in the lake to find the point where it disappears. The Secchi disc is an easy-to-use and highly reliable tool for determining the light conditions of the lake.
- Some of the lakes of Secchi disc are as follows:
Extremely clean crater lake, 40 m; Lake Beyşehir, 1.5-2,5 m; nutrient-rich lakes <1 m; Nakuru lake, 5-10 cm.

Water temperature in lakes

- Due to the warming of the water in the lakes, an event called thermal stratification occurs. Accordingly, the lake is divided into different temperature layers from the surface to the bottom.

- The temperature in the lake water distributed under the influence of the winds. The stratification of the water begins with the melting of the ice cover (most of the lakes in the Northern Hemisphere) in the spring (during the winter the temperature of the water is no more than 4 ° C from the surface to the bottom). The temperature gradually decreases from the lake surface to the depths. This decrease goes down to 4 °C.

- Since the density of water at 4°C is at the highest level, the density decreases above and below this temperature.
- Less dense water is located above the dense water.
- This difference in density increases as the temperature increases.
- Density difference between 24-25°C is approximately 30 times that of 4-5°C.
- Most of the heat exchange between the lake and its surroundings occurs on the water surface.
- As the water cools down, it goes down to the bottom as its density increases.
- In tropical lakes, surface waters never fall to 4 °C and the bottom water temperatures are also higher.
- In polar lakes, water is usually at freezing temperature.
- Summer stratification does not occur in the shallow parts of the litoral region.