

TAHOE:
**STATE
OF THE
LAKE**
REPORT
2022

CLARITY

Annual average Secchi depth

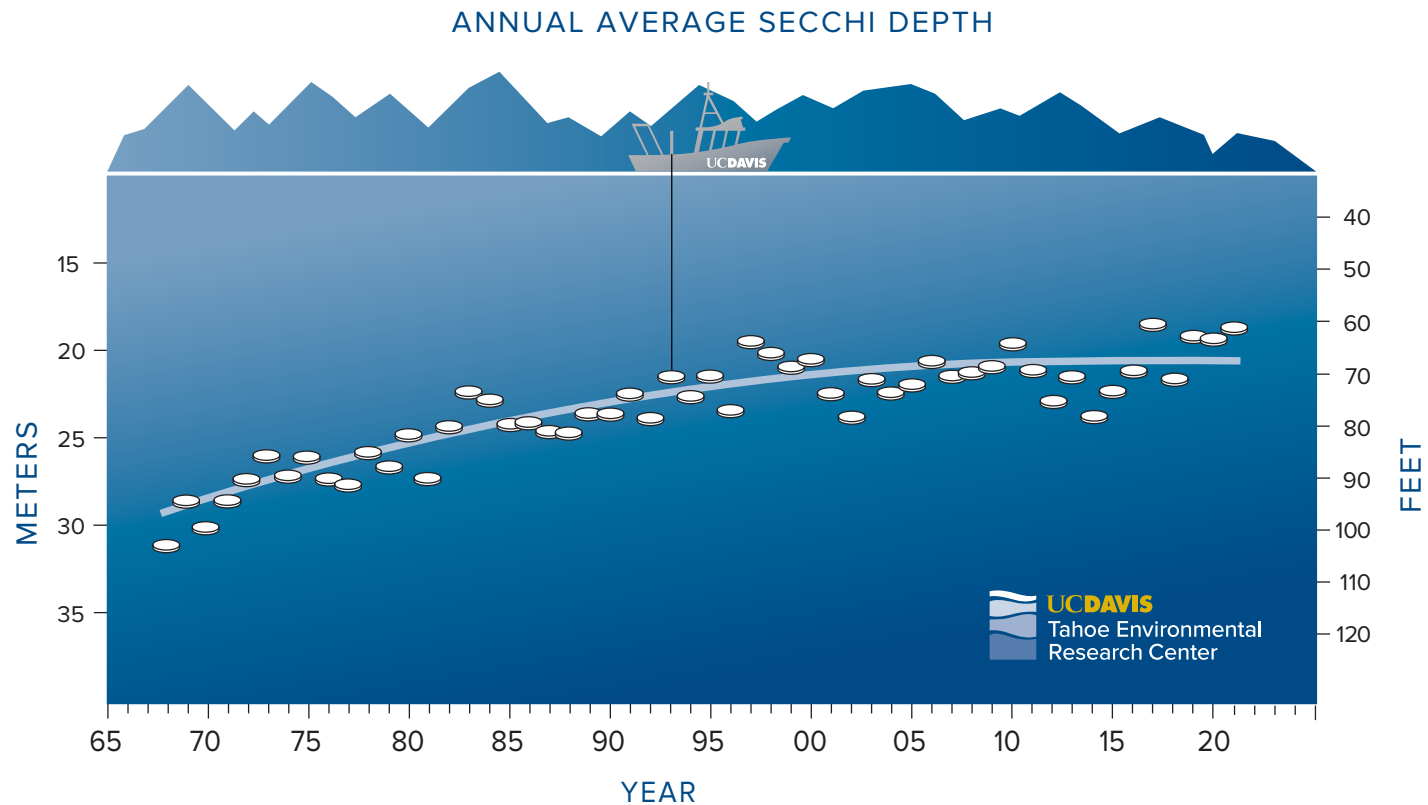
Yearly since 1968

The Secchi depth is the depth at which a 10-inch white disk, called a Secchi disk, remains visible when lowered into the water. In 2021, the annual average Secchi depth was 61.0 feet (18.6 m), little changed from the previous year and was reflective of the near-constant values that have been attained over the last 20 years. The greatest individual

value recorded in 2021 was only 79.6 feet (24.2 m) on February 12. The lack of complete vertical mixing of the lake in 2021 is a major reason for this low maximum clarity value. The worst clarity reading was 45.9 feet (14.0 m) on May 26. The clarity in 2021 was the result of a combination of factors including the absence of deep mixing of the lake and

the impact of lake stratification. The clarity restoration target of an annual Secchi depth of 97.4 feet (29.7 m) set by federal and state regulators, is a goal that agencies and the Tahoe Basin community continue to work toward.

Data source: TERC lake monitoring.



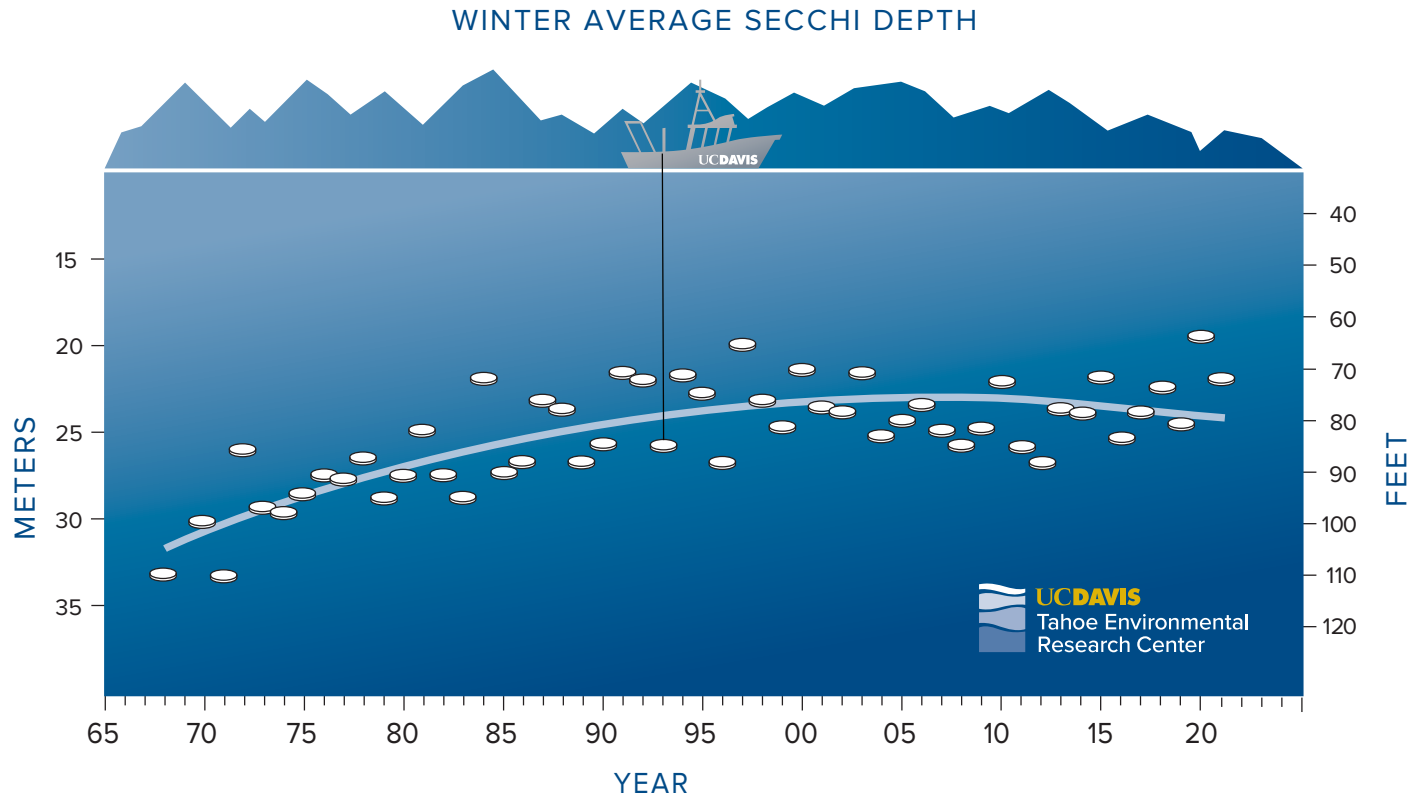
Winter Secchi depth

Yearly since 1968

Average winter Secchi depth was 71.9 feet (21.9 m), based on seven readings between December 2020 and March 2021. Winter precipitation was far below the

long-term average and such conditions would typically be expected to yield higher clarity values. The reasons for the low values are still not fully understood.

Data source: TERC lake monitoring.



Summer Secchi depth

Yearly since 1968

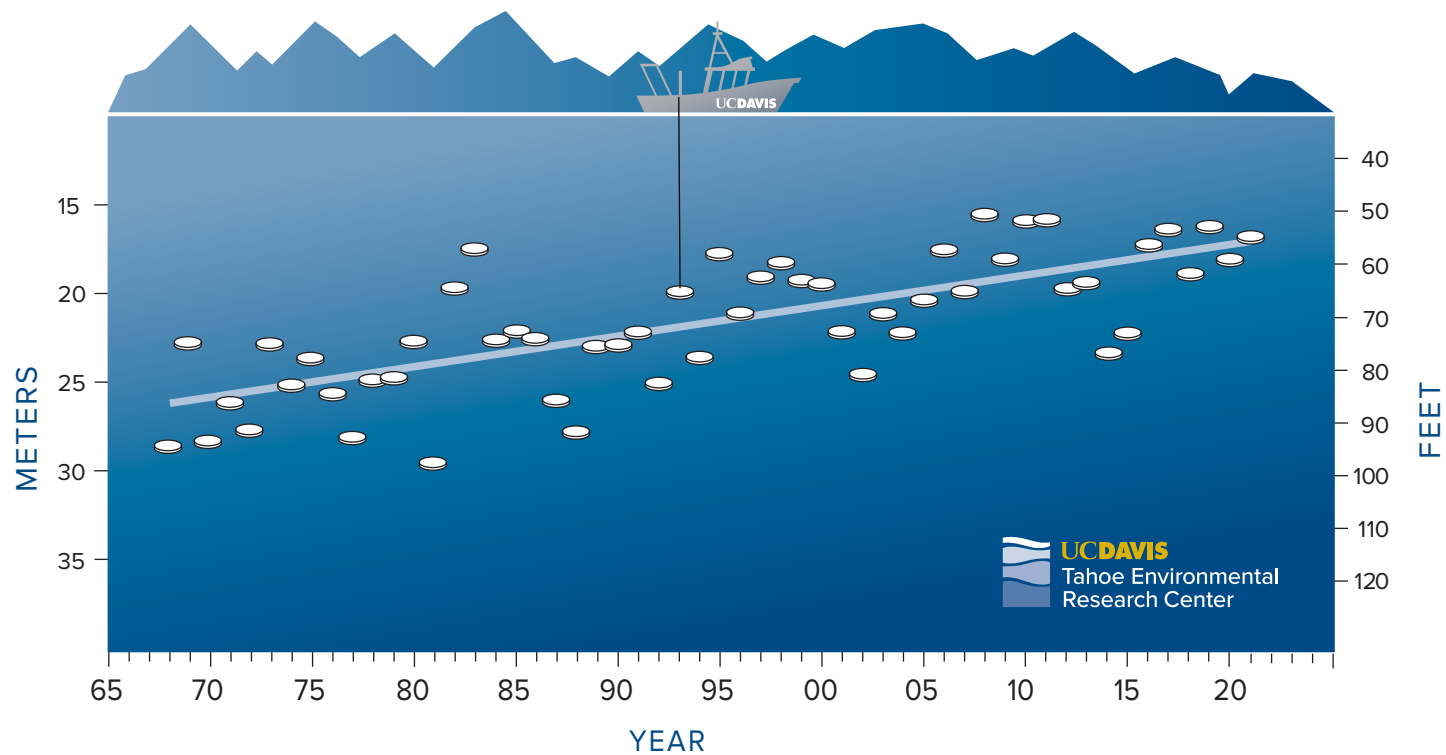
Summer (June–September) clarity in Lake Tahoe in 2021 was 54.8 feet (16.7 m), a decrease of over 4 feet from the previous year. This is significantly above the lowest summer value of 50.5 feet in 2008. Summer is typically the season of poorest clarity. The long-term

summer trend is dominated by consistent degradation. In the past two decades, scientists have observed a divergence in winter and summer clarity. In the winter months, lake clarity has not decreased significantly while in summer, clarity continues to decline. The cause of this

divergence is currently under review, but factors related to changing lake stratification and food web changes are believed to play important roles.

Data source: TERC lake monitoring.

SUMMER AVERAGE SECCHI DEPTH



Individual Secchi depths

2019, 2020, 2021

Here, the individual Secchi depth readings from the Index station on the west side of the lake for 2019, 2020, and 2021 are plotted. Secchi values can be seen to sometimes vary considerably over short time intervals. This figure clearly shows

that for the first eight months of the year, the 2021 values generally fell into the range of the 2019 and 2020 values. However, for the last four months of the year, Secchi depth values were consistently below the values of the previous two years.

This is likely in part due to the effects of the wildfire smoke in the basin during this period.

Data source: TERC lake monitoring.

