

TAHOE:
**STATE
OF THE
LAKE**
REPORT
2020

CLARITY

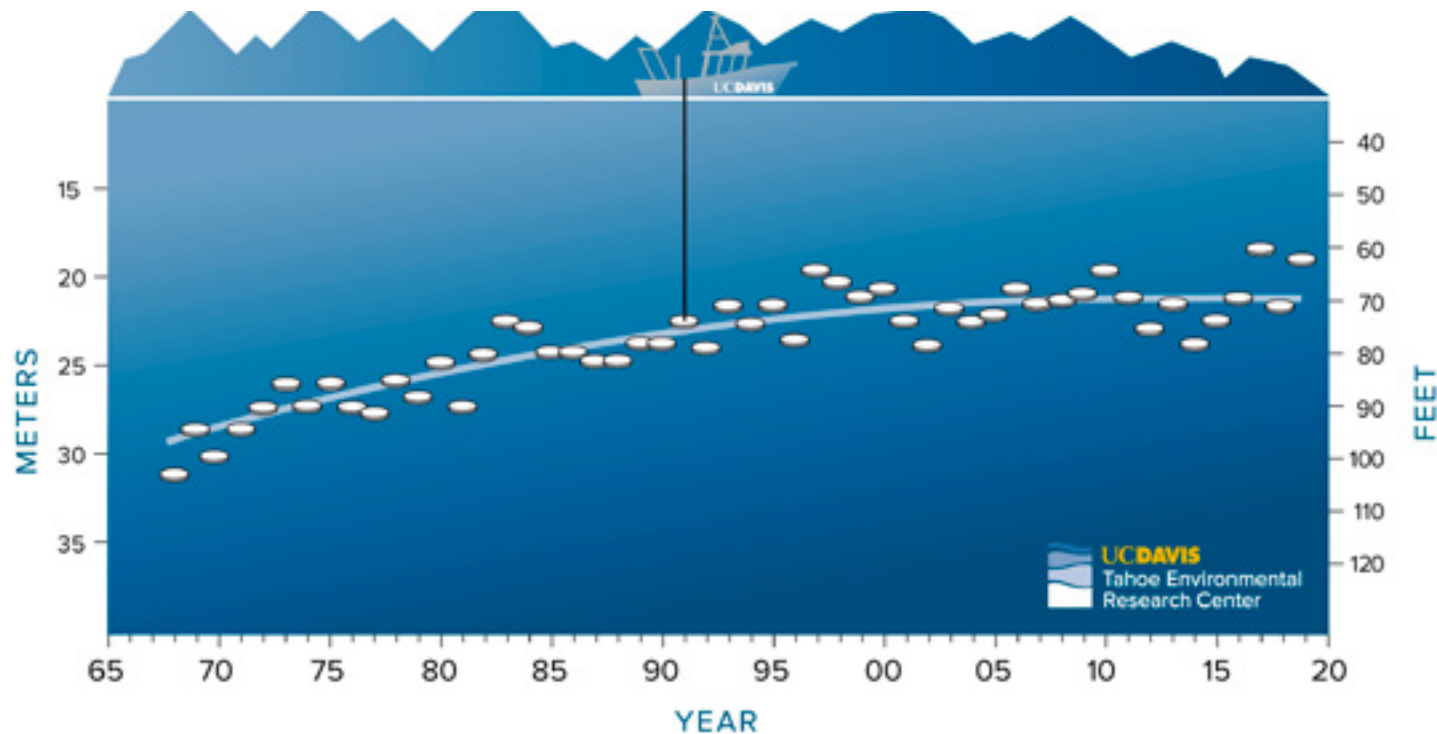
Annual average Secchi depth

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 2019, the annual average Secchi depth was 62.7 feet (19.1 m), an 8.2-foot decrease over the previous year. The highest individual value recorded in 2019 was 112.0 feet (34.0 m) on February

19, coinciding approximately with the complete vertical mixing of the lake. The lowest was 36.1 feet (11.0 m) on May 8, coinciding with a bloom of the tiny algal cell *Cyclotella*. The decrease in clarity in 2019 was the result of a combination of factors including the deep mixing of the lake, above average stream loads,

algal blooms, and the impact of lake stratification. While the average annual clarity is now better than in preceding decades, it is still short of the clarity restoration target of 97.4 feet (29.7 m) set by federal and state regulators, a goal agencies and the Tahoe Basin community continue to work toward.



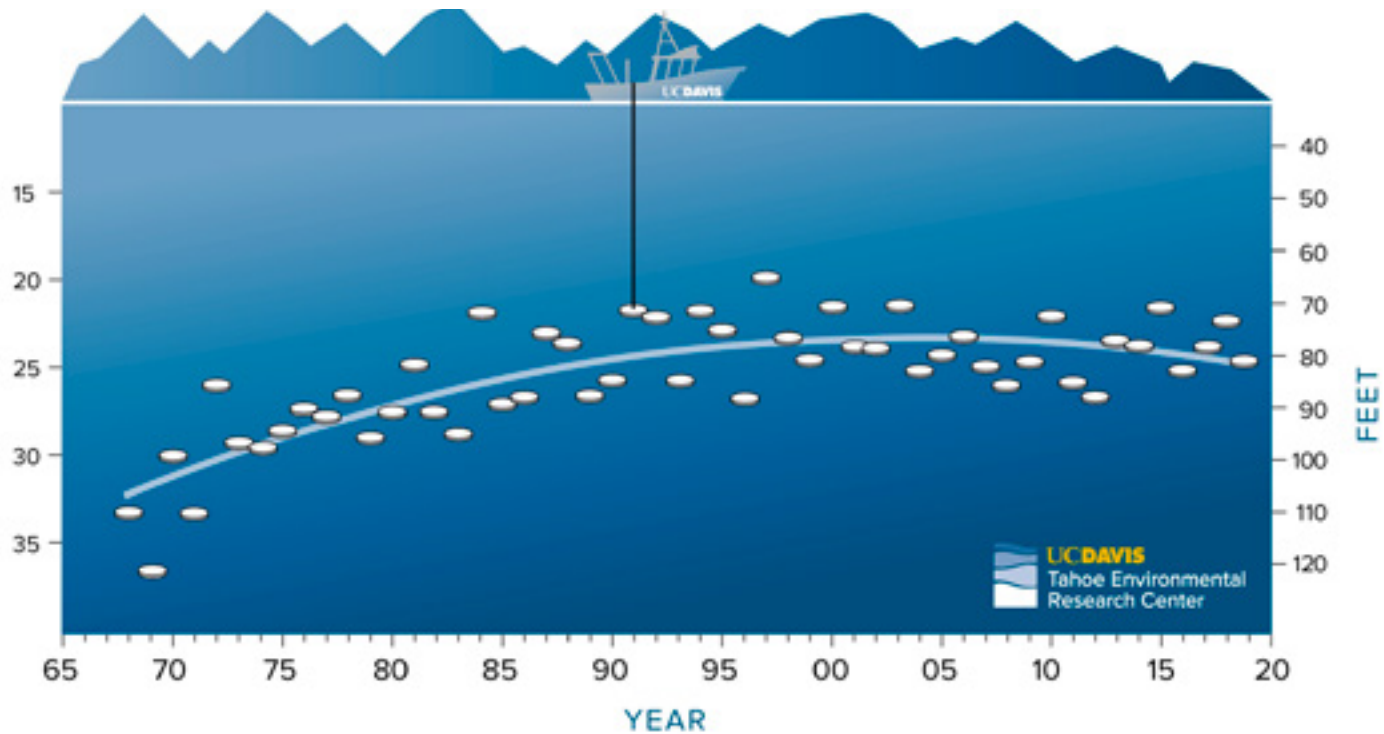
Winter Secchi depth

Yearly since 1968

Average winter Secchi depth was 81 feet, based on eight readings between December 2018 and March 2019. This is only slightly below the long-term mean of 84 feet. The winter clarity increased

by 7.5 feet over the previous year. The winter, clarity was well above the worst winter average, 65.6 feet (20.0 m), seen in 1997. Winter precipitation in 2019 was above the long-term average, and is

believed to be one of the contributing factors to inputs of particles from urban areas surrounding the lake.



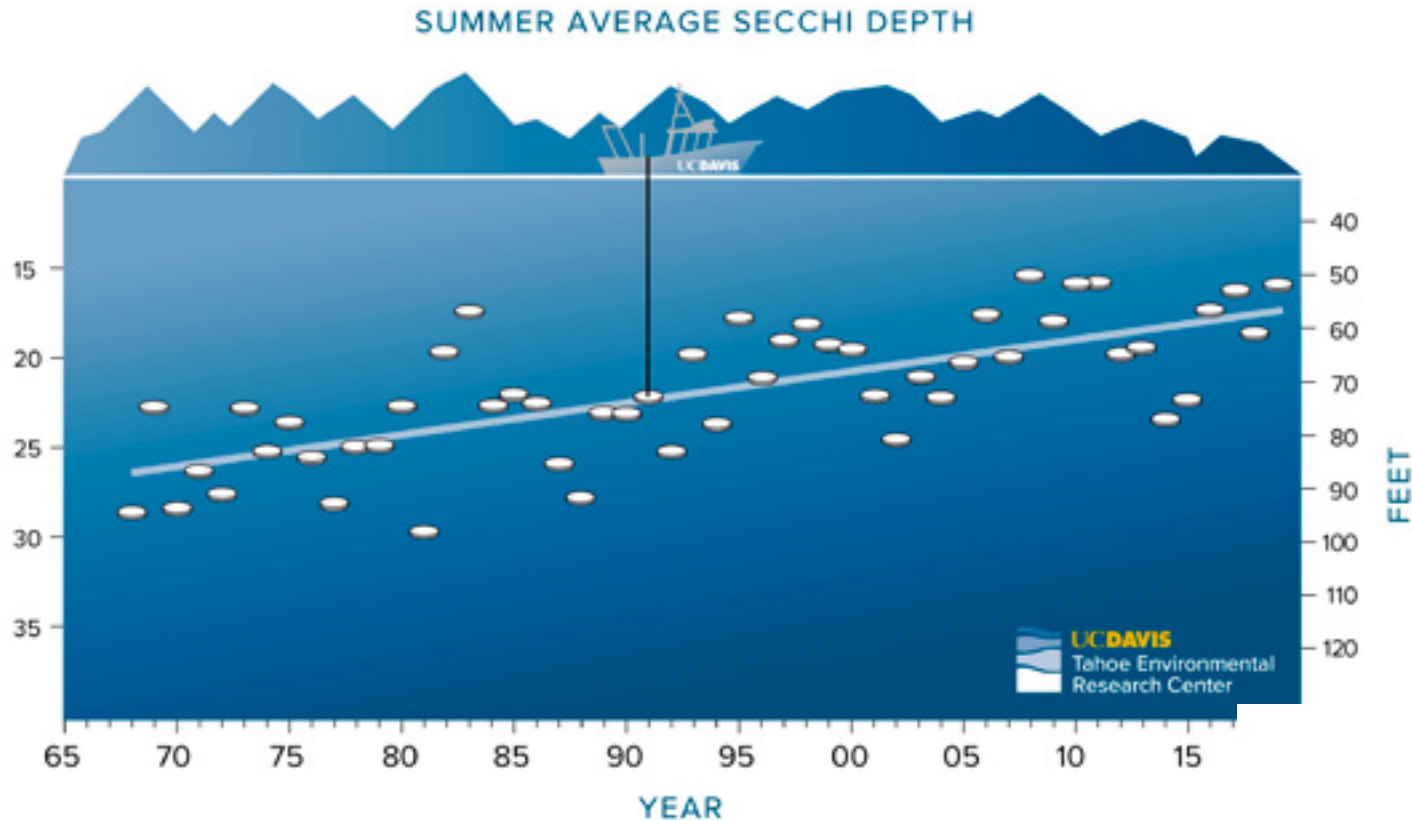
Summer Secchi depth

Yearly since 1968

Summer (June-September) clarity in Lake Tahoe in 2019 was 53 feet (16.2 m). This is the fourth lowest summer value, with 2008 being 51 feet, and 2010 and 2011 being 52 feet. Summer is typically the season of poorest clarity. The long-

term summer trend is dominated by a consistent degradation. In the past two decades, scientists have observed a divergence in winter and summer clarity. In the winter months, lake clarity values have tended to stabilize while in summer,

clarity continues to decline. The cause of this divergence is currently under review, but factors related to changing lake stratification are believed to play an important role.



Individual Secchi depths

2017, 2018, 2019

Here, the individual Secchi depth readings from the Index station on the west side of the lake for 2017, 2018, and 2019 are plotted. Secchi values can be seen to sometimes vary considerably over short

time intervals. This figure makes clear the abnormal summer conditions for 2019 that contributed to the low annual clarity value.

