
TEMPERATURE 6.1

Measurements of water and air temperatures at the field site are essential for water-data collection. Determinations of dissolved-oxygen concentrations, conductivity, pH, rate and equilibria of chemical reactions, biological activity, and fluid properties rely on accurate temperature measurements.

Accurate water- and air-temperature data are essential to document thermal alterations to the environment caused by natural phenomena and by human activities. Water temperature is subject to environmental monitoring by State and local agencies.

The USGS has adopted the Celsius (C) scale for measuring temperature. This section describes methods for measuring temperature in air, surface water, and ground water. The methods are appropriate for fresh to saline waters.

Temperature: a measure of warmth or coldness of a substance with reference to a standard value.

Some of the procedures recommended herein for equipment operation may be out of date if the equipment being used is different from that described or incorporates more recent technological advances—follow the manufacturer's instructions.