

A perspective on water quality monitoring and assessment from 1972 to 2020

Sylvia R. Esterby (sylvia.esterby@ubc.ca), University of British Columbia, Okanagan, Canada.

The definition of water quality is use-specific and the assessment of water quality is made by measuring a relevant indicator. The design of the measurement program depends upon the physical characteristics of the water body being studied. To make the assessment, a number of statistical methods suitable for the particular objectives and design are usually available for the analysis of the data. In this paper, a brief review of some aspects of water quality monitoring of fresh waters is given. This covers the period from the early 1970s, when interest was expanding beyond water quantity to also include quality, to the present, where the possibility of using remotely measured indicators is being more actively pursued. The nonparametric methods introduced to the water quality community about 1982 are compared with some more comprehensive statistical methods employed to follow temporal trends in space. Several case studies are explored.