

The scope for using hydrogeochemical techniques in water quality studies in Africa is reviewed as a background to a set of thematic papers. Water quality problems are emerging as a key issue in Africa either: 1. i) in view of the pressures of man-made pollution on finite resources; or 2. ii) the existence of regions with naturally induced geological problems, for example fluoride endemic areas. Such natural problems are the focus of this paper and the following topics were emphasised during a workshop in Sodere, Ethiopia: the need to determine natural baselines as a means of recognizing anthropogenic pollution; the need for high quality samples and field data, but relatively basic analytical data; the use of chloride to assist in recharge estimation and water-balance studies; an understanding of depth stratification of water quality as part of the design of well/borehole drilling programmes; the use of hydrogeochemistry in geothermal studies; the recognition of health and/or acceptability problems, especially for F, Fe, Mn, As, I and Al. Water quality standards for African countries need to be considered in the context of local geochemical environments and some of the WHO limits, especially for major ions, may be unattainable owing to naturally high total mineralization.