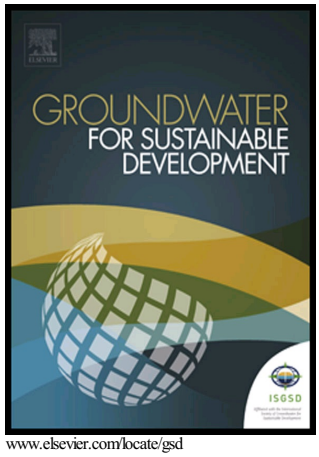

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GEOGRAPHIC INFORMATION SYSTEM MAPPING OF GROSS ALPHA/BETA ACTIVITY CONCENTRATIONS IN GROUND WATER SAMPLES FROM KARNATAKA, INDIA: A PRELIMINARY STUDY

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Abstract

The activity concentrations of the gross α and β in ground water samples were determined for 178 bore wells of Karnataka state of India. The aim of this study was to develop a first insight regarding the radiological quality of ground water samples from Karnataka state. Sampling and measurements were carried out from 2013-2014. So far there has been no detailed study in the radioactivity measurements in drinking water of Karnataka state. TDS, pH and gross alpha and gross beta activity measurements have been performed according to standards. The gross alpha and gross beta activity concentrations in the bore water samples of Karnataka state have been found to lie between 0.69 to 15.26 mBq/l with a mean of 5.66 ± 0.50 mBq/l and 14.6 to 108.5 mBq/l with a mean of 57.76 mBq/l respectively. In general, the gross beta activity was higher than the alpha activity concentration. From the value of gross alpha and gross beta, it is clear that the water samples are investigated are acceptable for consumption, complying with the WHO recommendations for drinking water.The data obtained can provide information for to make decisions about potential future drinking water regulations.

Graphical abstract