Abstract

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A GIS Application for Remote Surveillance of Groundwater Contamination

Track: Environment Solutions

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Current advances in wireless technology supported by the development of customized GIS applications, can significantly enhance field data collection, processing and visualization in environmental research. A distributed wireless sensor network was designed to collect and remotely transmit data in real-time to an in-house geodatabase, to monitor the long-term natural attenuation of groundwater contamination. The integrated software application includes automated control of water quality sensors with built-in mobile agents, for scheduling data collection and testing sensor integrity. Sensor-derived parameters can then be used to generate a predictive model using GIS to characterize the wells and determine potential impact on the surrounding environment.

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