



Water
Resources
Programme

Contamination of the Urban Aquifers of Santiago, Chile

In the City of Santiago, Chile, exponential population growth has required intensive use of groundwater, resulting in the degradation of water quality.

Isotope techniques were used to identify and quantify the sources of groundwater recharge in order to develop aquifer protection strategies.

Isotope data show that natural recharge to the aquifer occurred from infiltration of rain or river water, which is now being replaced in parts of the aquifer by leakages from water supply pipelines and sewage drains.

The local authorities use this information to develop a conceptual model of the aquifer and vulnerability maps (based upon the source and travel time of recharge) for sustainable use of the groundwater resources.

