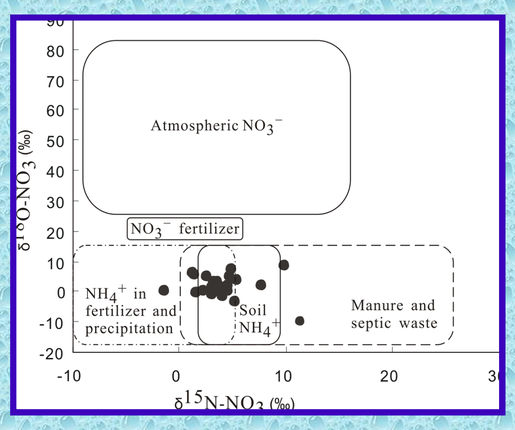
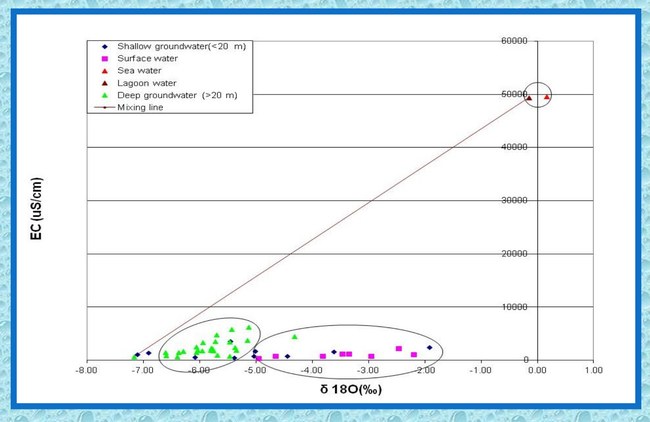
The 40th Anniversary of RCA Exhibition
April 16-19, 2012, Beijing, P. R. China

Assessment of Freshwater Quality Trends in Asia and the Pacific

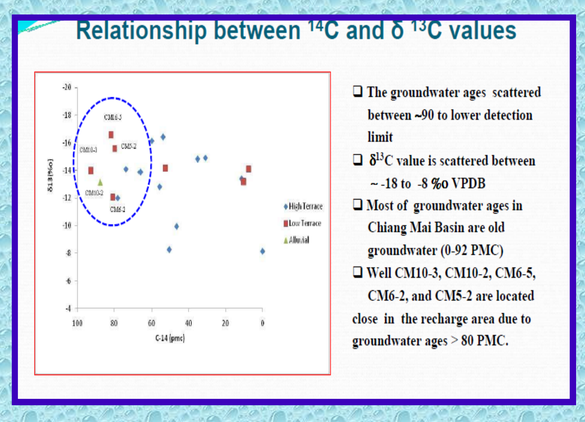
The projects RAS/8104 (2007-2009) and RAS/8108 (2010-2011), Assessment of Trends in Freshwater Quality Using Environmental Isotopes and Chemical Techniques, were undertaken to build on the results of the past projects (RAS/8084 and RAS/8097) and extend the awareness and the utilization of isotope techniques in freshwater resources management with specific emphasis on end-users. The establishment of a regional database of water quality parameters for groundwater and surface water comprising isotope and chemical constituents for use by the broad community involved in water resources management is one of the expected outputs of the project. The long-term observations are expected to benefit the region and its countries enormously in their policy decisions.



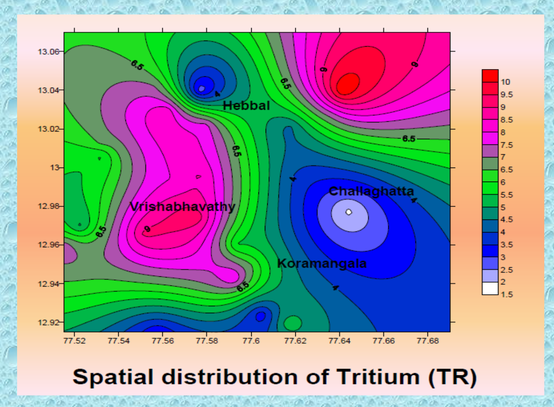
In North China, isotopes helped determine the major source of nitrate contamination of the groundwater to be from chemical fertilizer.



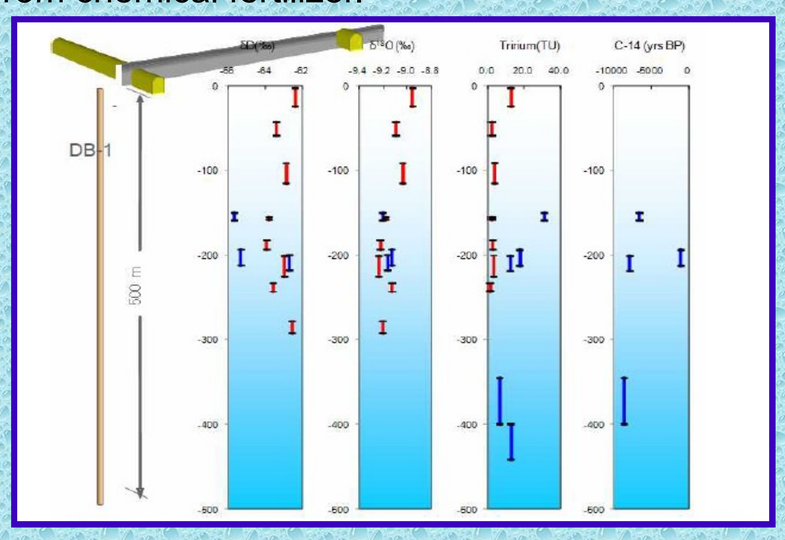
In Sri Lanka, the increase in salinity of groundwater was determined to be mainly due to evaporite dissolution and not seawater intrusion. .



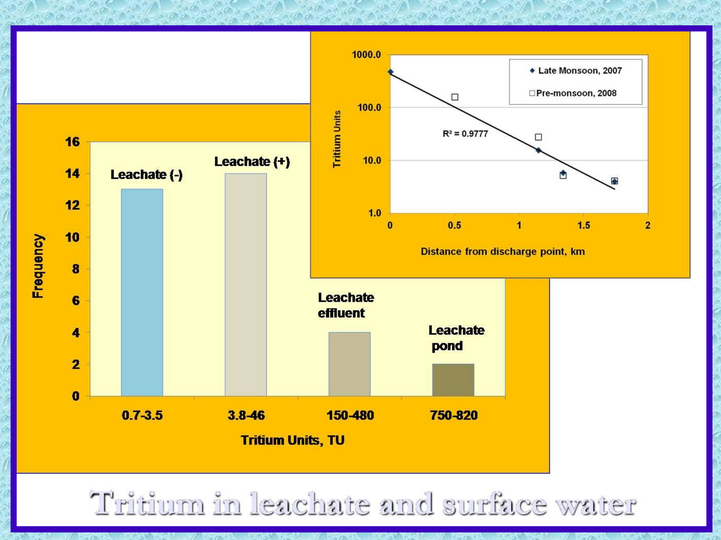
In Thailand, carbon dating was utilized in studying the dynamics of recharge into the aquifer.



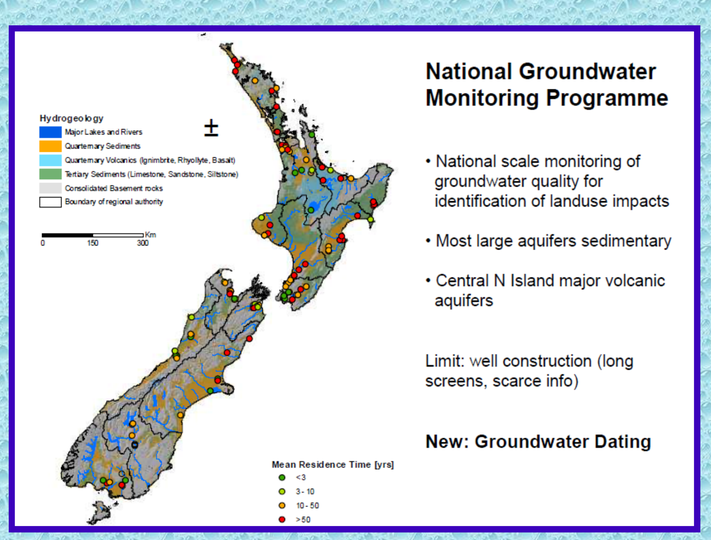
In India, tritium dating was utilized to assess the vulnerability of the groundwater to waste contamination.



In South Korea, multiple isotopes and hydrochemical techniques are employed in the detailed investigation of geogenic uranium contamination of the groundwater in KAERI.



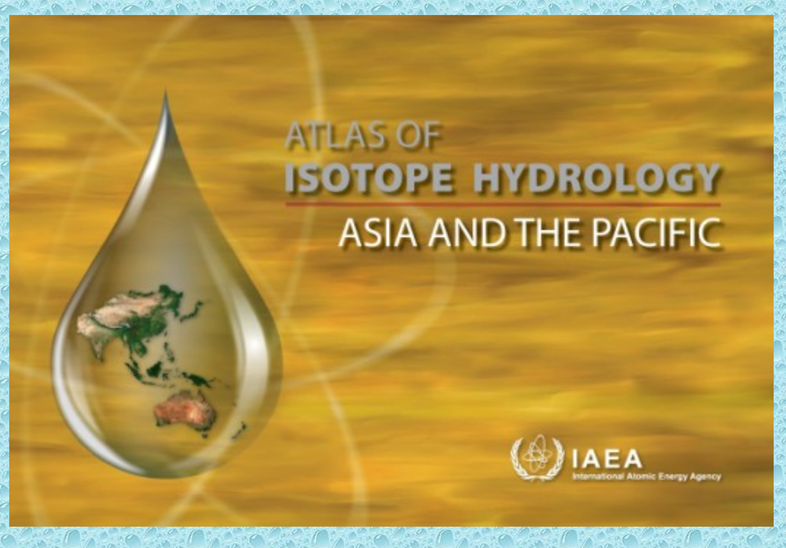
In the Philippines, highly elevated tritium concentration in the leachate provided unequivocal evidence of leachate contamination of the nearby surface water body.



In New Zealand, the utility of integrating mean residence time (from tritium dating) with hydrochemical data to identify land use

National Seminar on “Application of Isotope Techniques to Solve Hydrological Problems”, 24 June 2009, BAEC, Dhaka. Resulted to enhanced awareness of isotope techniques by the end-user agencies.

National Coordinators of participating Member States meet to review the progress of the project RAS/1084, in Beijing, China, November 2009.



The data collected by the participating Member States from projects undertaken under the RCA now form a part of the Atlas of Isotope Hydrology in Asia and the Pacific.