



Isotopes for improved management of nitrate pollution in aqueous resources

Joining forces for improved water quality: the INPAR network

Authors

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Introduction

European legislation [1-4] on nitrate has been around for a long time, still nitrate pollution remains an issue. Nitrate is degrading the quality of drinking water and water resources in general (eutrophication of surface and marine waters).

Isotope data can help to identify nitrate pollution sources, to investigate the fate of nitrate in the environment and to come up with appropriate measures to reduce nitrate pollution as shown in numerous cases [e.g. 5]. Thus, the use of isotope data enables improved management of nitrate contamination in ground, surface and marine waters.

INPAR network

For various reasons, isotope methodology – though proven to be useful – is not always applied. To make this methodology more accessible across Europe and to share best practices, the JRC network 'Isotopes for improved management of Nitrate Pollution in Aqueous Resources (INPAR)' has been created by the European Commission, Joint Research Centre (JRC) - Institute for Reference Materials and Measurements (IRMM), in 2006.

Members of the INPAR network (alphabetical)

- Austrian Research Centers GmbH – ARC (Austria)
- BRGM (France)
- Centre for Environmental Research – UFZ (Germany)
- Envirospan (Spain)
- University of Stockholm (Sweden)
- European Commission JRC IRMM
- Hungarian Academy of Sciences (Hungary)
- Joanneum Research Graz (Austria)
- Jozef Stefan Institute (Slovenia)
- LABORATORIO ISOTOPICO ISO4 (Italy)
- Malta Resources Authority (Malta)
- Netherlands Institute of Applied Geoscience TNO (Netherlands)
- The Stable Isotope Laboratory Norwich (United Kingdom)
- Umweltbundesamt (Austria)
- University of Gent, ISOFYS (Belgium)
- University Barcelona (Spain)
- University of Pavia (Italy)
- University of Rostock (Germany)
- VITO (Belgium)

Aims

The network aims in particular at promoting the use and development of isotopic techniques as a tool for better water management in relation to nitrate pollution across Europe by means of multi-disciplinary knowledge exchange (see Fig. 1), joint research projects and training activities.

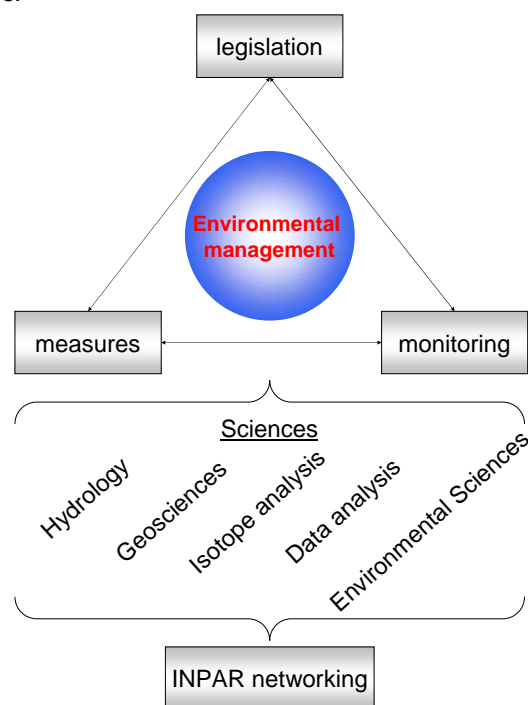


Figure 1: Improved management of nitrate pollution by multi-disciplinary knowledge exchange

Information and membership

More information on the INPAR network, its activities and how to become a member you will find on the INPAR homepage

http://irmm.jrc.ec.europa.eu/html/activities/isotopic_measurements/INPAR

or via the contact details as stated below.

References

- [1] Nitrates Directive (91/676/EEC), [2] The Water Framework Directive (2000/60/EEC), [3] Urban Waste Water Treatment Directive (91/271/EEC), [4] Marine Strategy Framework Directive (2008/56/EC), [5] Duta, S., F. Accoe, P. Taylor (Eds.) (2008): The use of isotopes for improved management of nitrate pollution in aqueous resources. European Commission, JRC, IRMM, Geel, EUR 23658 EN.

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