

# Geo-Information Services for Water Quality

## Monitoring Nutrient and Plant Protection Agents Entries to the Water Cycle

The current discussion on climate change particularly highlights one fact: in the near future, water resources will become the most important good for mankind.

Water monitoring networks show that more than 20% of EU groundwaters today are charged with excessive nitrate concentrations, at least 30-40% of EU rivers and lakes currently show eutrophication symptoms and/or bring high nitrogen fluxes to coastal waters and seas. Political bodies have recognised the need to act and establish the legal framework required to achieve the goal of sustainable high-quality water resources. Now, efficient and cost-effective tools are needed: to adequately characterise water bodies and – in the next step – to localise, assess and define measures and actions that help to achieve or conserve a good status of the water bodies.

**Infoterra's Water Quality Services** focus on the identification and management of nutrient and plant protection agent inputs into the hydrological cycle. Such inputs may originate from agricultural (fertilisation /chemical plant protection), urban (direct surface runoff) and other point sources (industry /sewage treatment plants).

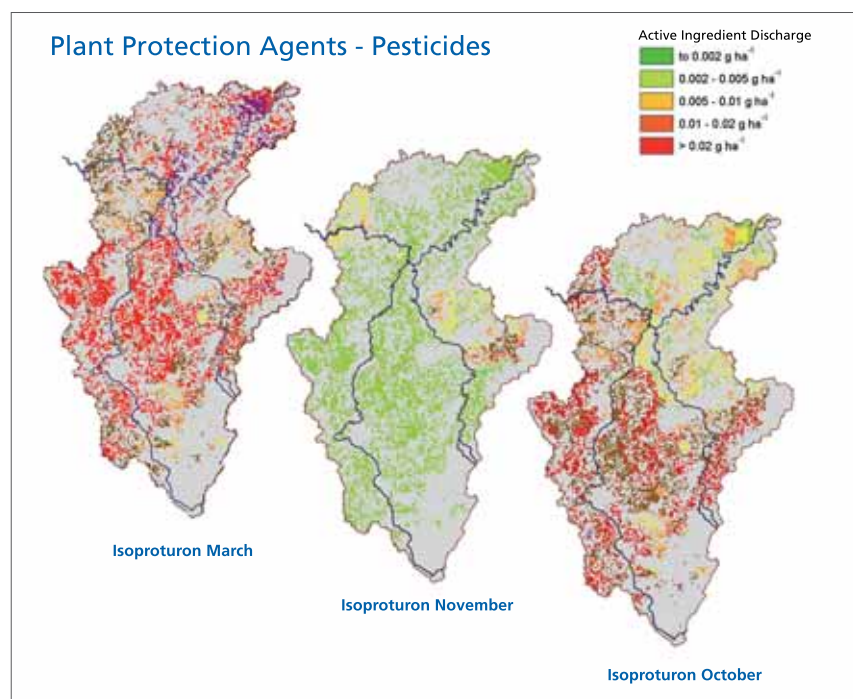
Infoterra's **Land Cover Mapping** products are based on high and/or medium-resolution satellite imagery, fine-tuned to directly serve as a reliable input of key parameters to either established or novel water quality models. Depending on the individual client's application requirements, land cover maps with a resolution of up to 1:25,000 and up to 30 thematic classes and regular updates are possible.

As a next step, Infoterra, with its partners, performs the operation of **Water Quality Models** integrated into easy to use software with flexible user interfaces with a focus on nutrients and plant protection agents (e.g. pesticides). These models locate and assess the impact of diffuse pollution sources (e.g. as related to local agricultural practice and hydrological conditions) on water quality.



Clean water bodies are valuable resources to mankind

In combination with user's common analysis and management tools, Infoterra's Water Quality Services efficiently support water management authorities on all administrative levels to define effective measures which directly contribute to obtaining the "good status" of water bodies – explicitly required e.g. by the European Water Framework Directive by 2015.



Modelling: entry of pesticide „Isoproturon“ into ground- and surface waters of a cross-border river basin catchment at different points in time  
GSE Land Consortium, IKSMS & GBG e.V.

