

2) Name: allocation to discharge unit (gaf90_nl) based on model calculations NMI (National environmental indicator for crop protection agents)

Description

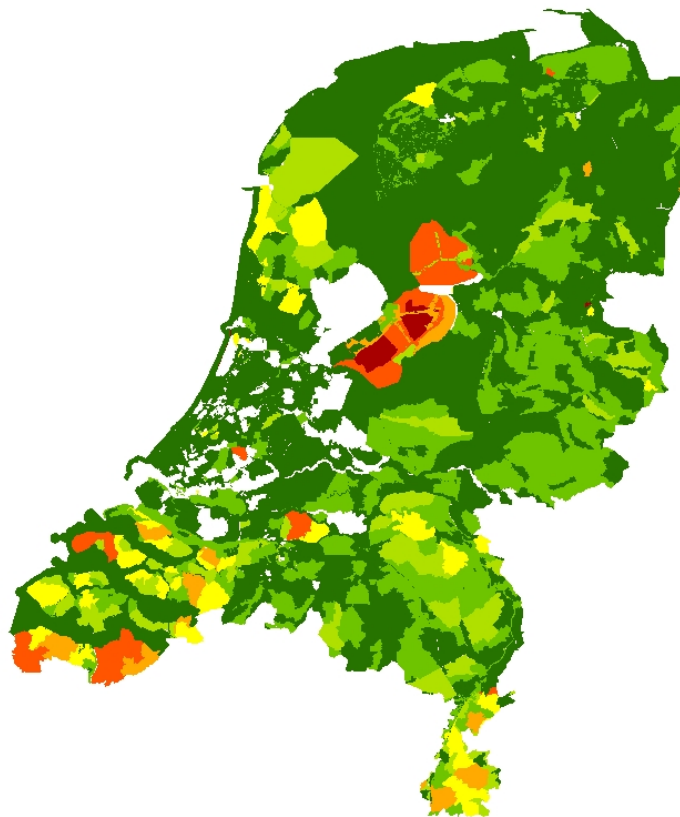
The Netherlands Pollutant Release & Transfer Register (PRTR) includes data on the emissions to air and water of approximately 200 crop protection agents. These data originate from the NMI version 3 (2012). Developers are Alterra and RIVM (National Institute for Public Health and the Environment).

Aim of the NMI is to calculate the environmental load of crop protection agents. The principle of the calculations is: usage > emissions > concentrations > potential load. From this chain, the PRTR only uses the emissions. NMI3 calculates on a resolution of 25 ha (approximately 130,000 cells in the Netherlands). PRTR aggregates these data further to the level of discharge units (water) or municipalities (air). A discharge unit is the smallest hydrological unit distinguished in the Netherlands, based on water management or natural drainage. Their area mostly lies between three and twenty square kilometres.

The point of departure is usage, derived from sales data of the crop protection agents. PRTR only considers the agricultural use. NMI3 allocates the use across the Netherlands based on crop type, application technique and –frequency of use. The Dutch land use database (LGN) provides the data on crop type.

For water, the NMI model considers the following ways of dispersion:

- Drainage
- Drift
- Greenhouses
- Run-off
- Bulb farming
- Mushroom growing



Example map 2: Relative distribution of carbendazim emission per discharge unit. Red and orange indicate the highest load.

Institutes involved

RIVM
Alterra
Deltares

Currency of distribution basis data

2008

Background documents

<http://www.wageningenur.nl/en/Expertise-Services/Research-Institutes/alterra/Facilities-Products/Land-use-database-of-the-Netherlands/Different-Versions-of-Databases/LGN7.htm>

Hazeu, G.W., Schuiling, C., 2009. New approach for land use mapping in the Netherlands (LGN6). 3rd EARSeL Workshop on Land Use and Land Cover, 25-27 November 2009, Bonn, Germany. Conference presentation.

R. Kruijne, A.M.A. van der Linden, J.W. Deneer, J.G. Groenwold and E.L. Wipfler (2012)
Dutch Environmental Indicator for Plant Protection Products
Alterra Report 2250.1
Alterra, Wageningen