

5) Name: allocation to municipality based on model calculations NMI3

(National Environmental Indicator for Crop Protection Agents)

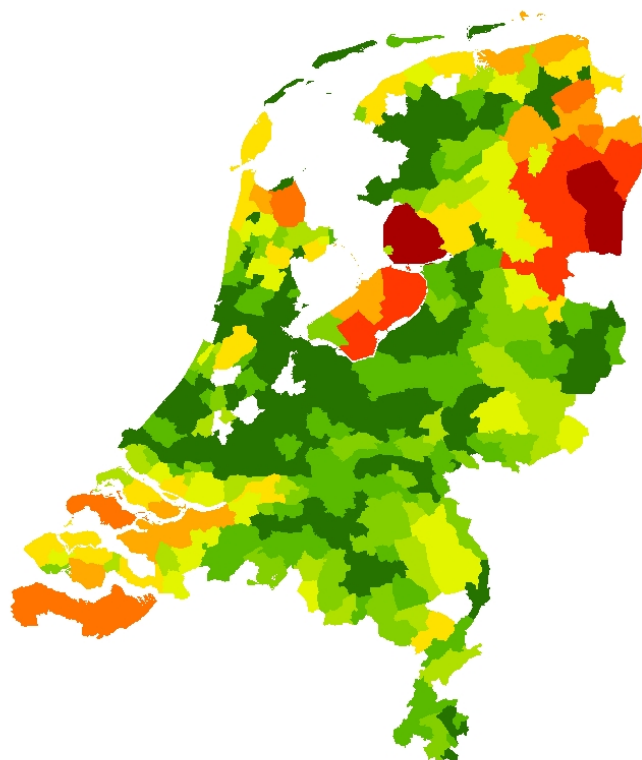
Description

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 model. Developers are Alterra and RIVM (National Institute for Public Health and the Environment).

The aim of the NMI model is to calculate the environmental load caused by crop protection agents. Principle of the calculations is usage > emission > concentration > potential environmental load. From this chain, the PRTR uses only the emissions. NMI3 calculates on a resolution of 25 ha, which comes down to approximately 130,000 cells in the Netherlands. For air, PRTR presents these data on the spatial aggregation level of municipalities. Starting point is the total usage of crop protection agents in the Netherlands, derived from sales data provided by Statistics Netherlands (CBS). PRTR only considers the agricultural use. NMI3 allocates the use across the Netherlands based on crop type, application technique and -frequency. The Dutch land use database LGN6 provides information on crop types. The Institute of Agricultural Economics (LEI) provides information on application techniques and -frequencies.

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

- Volatilisation during application
- Volatilisation from crops (open air)
- Volatilisation from crops in greenhouses
- Volatilisation from soil (open air)



Example map 5: relative distribution of total mancozeb emission to air, orange and red colours indicates higher emission.

Institutes involved

Alterra

RIVM

CBS

LEI (Agricultural Economics Institute)

Currency of distribution basis data

Base data spatial distribution: 2008. Sales figures are updated annually.

Background documents

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

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