

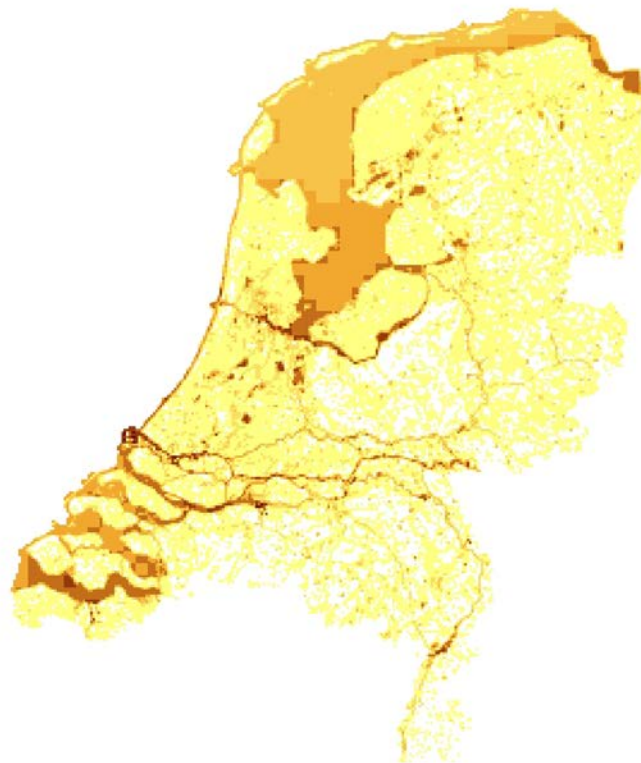
1) Name: allocation to grid cell (deposition on water and soil) based on model calculations OPS (Operational model Priority Substances)

Description

Atmospheric deposition of substances on water and soil can be described as load of surface water or soil via the atmosphere. When substances emit to the atmosphere, they disperse, and eventually deposit on water and soil through dry- or wet deposition, in the latter case via precipitation. OPS is a dispersion and deposition model developed by the National Institute for Public Health and the Environment (RIVM). Based on emissions, it calculates dry deposition, wet deposition and concentrations in both air and precipitation at a specific location, the receptor. In this case, the Netherlands Pollutant Release & Transfer Register (PRTR) provided the emission data. A geographical information system (GIS) processes the OPS results further to calculate the actual net deposition, which is the sum of dry- and wet deposition. This is done for five different categories:

- Unpaved
- Paved and drained
- Paved and undrained
- Surface water on the mainland
- NCS

To distinguish these categories, the GIS uses information on land cover and drainage provided by the Central Bureau for Statistics (CBS) and PRTR. Spatial resolution is 1x1km on the mainland and 5x5 km on the NCS.



Example map 1a: total nitrogen deposition on surface water, 1 x 1 km



Example map 1b: total nitrogen deposition on paved and drained surfaces, 1 x 1 km



Example map 1c: Total nitrogen deposition on national continental shelf, 5 x 5 km

Institutes involved

Netherlands Organization for Applied Scientific Research (TNO)
National Institute for Public Health and the Environment (RIVM)
Deltares
Directorate-general for Public Works and Water Management (Rijkswaterstaat)

Currency of distribution basis data

Emissions 2013, drainage 2012, land use data 2010

Background documents

M. Roemer (TNO), J.H. van der Brugh (TNO), N. van Duijnhoven (Deltares) (2008)
Factsheet Atmospheric Deposition on the Netherlands and the Netherlands Continental Shelf

TNO, Deltares, PBL (in opdracht van Rijkswaterstaat-WVL)
Atmosferische depositie op Nederland en Nederlands Continentaal Plat
Versie mei 2016

OPS model

<http://www.rivm.nl/media/ops/v4.5.0/OPS-model-v4.5.0.pdf>