General information regarding the use of this research dataset

About the creators of the concentration maps

Modelling of noise in all areas have been done by Mikael Ögren, Occupational and Environmental Medicine, School of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, and Department of Occupational and Environmental Medicine, Sahlgrenska University Hospital, Gothenburg, Sweden

Air pollution modelling in Umeå, Linköping and Gothenburg have been done by Christian Asker, David Segersson, and Cecilia Bennet, at the Meteorology Research Unit, Swedish Meteorological & Hydrological Institute, Norrköping, Sweden.

Air pollution modelling in Malmö have been done by Mårten Spanne and Susanna Gustafsson at Environmental Department, City of Malmö, Malmö, Sweden.

Air pollution modelling in Stockholm and Uppsala have been done by Kristina Eneroth and Jenny Lindvall at SLB-analys, Environment and Health Administration, City of Stockholm, Stockholm, Sweden.

The use of the data must be referenced in any written or digital publication, as well as public presentations as:

Molnár, P., & Ögren, M. (2023). Air pollution and noise maps for SCAPIS environment (Version 1) [Data set]. University of Gothenburg. DOI: https://doi.org/10.5878/btxv-v698.

About the air pollution and noise maps

In this folder we have maps modelled air pollution (PM2.5, PM10, NOx and NO2) and noise (expressed as Lden) for the base modelled years 2000, 2011, and 2018. For NO2 we have total levels, and for the other air pollutants we have both total levels, and also the levels from the different major local sources, traffic exhaust, traffic road-wear and resuspension, shipping, residential heating, and other (a mixture of non-road machinery, agricultural sources and diffuse area sources).

The naming convention of the maps are as follows:

Area-name_Variable_Sub-variable (if needed)_Model-Year

Some examples:

Gbg_NO2_Total_2000	A map of the Gothenburg area with Total NO2 levels
SU_NOx_Ship_2011	A map of the Stockholm and Uppsala area with levels of NOx from shipping
Umeå_PM25_ResH_2000	A map of the Umeå area with levels of PM2.5 from residential heating
Lin_PM25_TrExh_2011	A map of the Linköping area with levels of PM2.5 from traffic exhaust
Malmö_PM10_TrRes_2018	A map of the Malmö area with levels of PM10 from traffic road wear and resuspension

List of abbreviations

Total	Sum of all local and nonlocal sources (including long range transported sources)
local	Sum of all local sources
Other	Sum of non-road machinery, agricultural sources, and diffuse area sources
ResH	Residential heating
Shipping	Local shipping sources within the modelled areas
TrExh	Traffic exhaust
TrRes	Traffic road wear and resuspension sources (named RW in the Stockholm -Uppsala maps)

Modelling areas

UM	The area around Umeå
S-U	The combined area of Stockholm and Uppsala county
LN	The area around Linköping
Gbg	The area around Gothenburg (Göteborg in Swedish)
Malmö	The area around Malmoe (Malmö in Swedish)

National map of Sweden

There are two maps of Sweden with the modelled areas marked, one clean map over Sweden (SCAPIS-Sweden_clean.png), and one with population data of total population within each modelled area and the number of cohort members in each area, together with the total population of Sweden for the year 2018 (SCAPIS-Sweden_population.png).

Below is the population data if you want to use the clean map and still present the population data.

Modelling area	**Total population 2018**	**Cohort**
Umeå	153 888	2 507
Uppsala	376 163	5 036
Stockholm	2 339 543	5 038
Linköping	436 912	5 057
Gothenburg	1 406 118	6 265
Malmö	744 145	6 251
All areas	5 456 769	30 154
Population Sweden 2018	10 230 185	

As a user of these maps, we recommend limiting any changes to the following:

1. Change the size of a map, i.e., shrink it to fit in a publication.
2. Combine two or more maps,
    i. 2a. Combine the same area for the three different years in the same figure to illustrate the change over time,
    ii. 2b. Combine several geographic areas in one larger figure to illustrate differences between different areas.

(Do not forget to keep the spatial scales the same for all maps, i.e., shrink all of them by the same percentage.)

Full GeoTIFF maps

For researchers who want to use the modelled air pollution and noise data to assign exposure or perform other spatial analysis there is another dataset available via the link below:

https://doi.org/10.5878/8kd2-6091

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