

Poverty map PC4 / neighborhoods - 2017 SCP

Spatial scale / resolution: Postcode 4, municipality and neighborhoods
Spatial coverage: Netherlands
Temporal range: 2017
Data format input data: osd-format
Data format output data: Polygons / ESRI Shape file (shp)
Data source input data: <https://digitaal.scp.nl/armoedeink kaart2019/waar-wonen-de-armen-in-nederland>
https://digitaal.scp.nl/armoedeink kaart2019/assets/data/regionaal_gemeente_pc4.ods

Table files: regionaal_gemeente_pc4.ods (original)
Armoede_SCP_2017_pc4.xls (processed)

GIS files: SCP_armoede2017_PC4.shp (PC4)
SCP_armoede2017_buurt (neighborhood)

Data description:

SCP Poverty map 2017 (Postcode 4)

The poverty map 2017 for the Netherlands per municipality and per postcode 4 area maps show the percentage of 'poor' people per unit and is based on a dataset by the statistics office (CBS) regarding integral income and possession statistics (GBA Inkomensstatistiek 2011-2017, versie 1: 19-9-2019, which is a product of CBS Integrale Inkomens- en Vermogensonderzoek (IIV)) of the period 2011 – 2017 and was adapted by SCP. Poverty data is only given for postal zones with at least 2000 inhabitants. In the municipal poverty data, poverty is given for more population categories than for PC4 poverty data:

Poverty percentages per municipality	Poverty percentages per PC4 zone
Total, children, employees, self-employed, social security, benefit recipients, pension recipients, non-immigrants, Western migrants, non Western migrants	Total, adults, children

SCP assesses poverty in an absolute and objective way. Absolutely, means that the poverty status of a person depends of his/hers own income, not the income relative to the income of others (which effectively measures income inequality). Objectively, means that the poverty boundary is determined by scientists and budget experts (opposed to subjective measurements by panels of civilians). According to the SCP definition someone is poor if he/she has insufficient income to finance minimal required goods and services. More detailed information regarding definitions and methods can be found in CBS (2017), Hoff et al. (2016), Goderis et al. (2018) and SCP (2019).

Data processing:

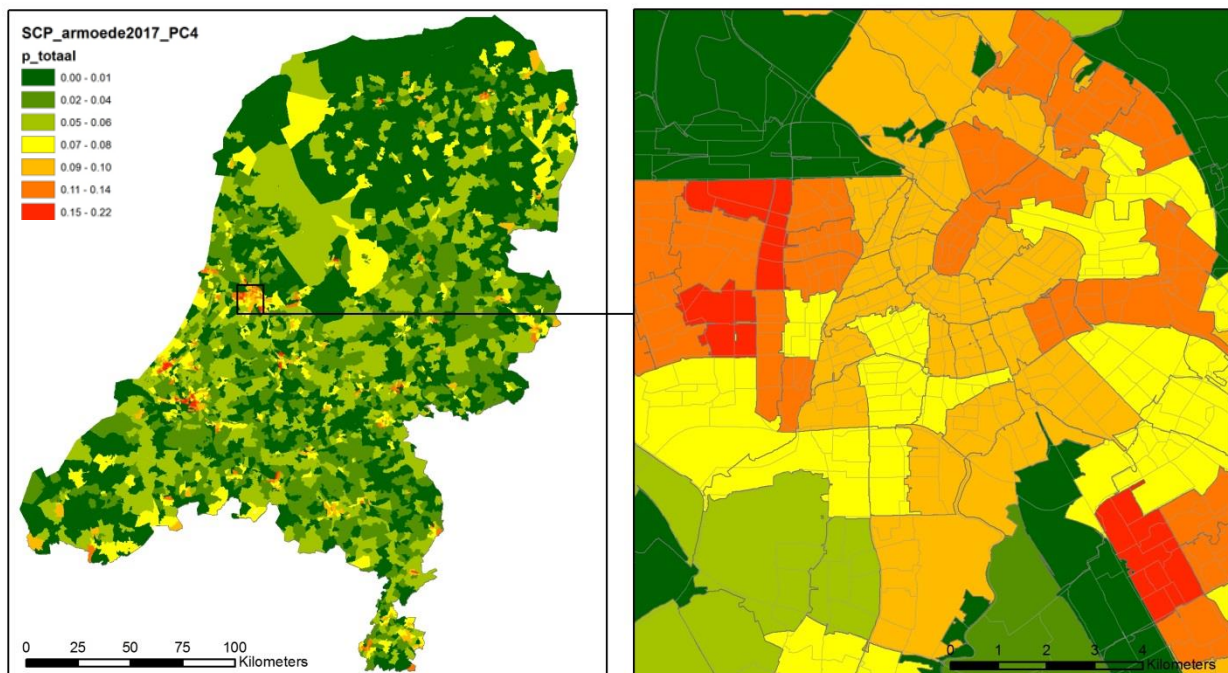
On the basis of the postcode 4 field 'postcodenum', the poverty values are linked to the available postcode 4 map for the year 2017 that is provided in the dataset collection of ESRI-NI (account required). Linked maps are exported to the ESRI File shapefile format. Details of this procedure can be found in Appendix A.

SCP Poverty map 2017 (Neighborhoods 2016)

For a specific research project carried out on a spatial level of Dutch neighborhoods, the SCP postcode-4 level data of 2017 were transformed to the neighborhood level in September 2019 by the GECCO team using a simple weighted areal interpolation method. Details of the transformation procedure can be found in Appendix B.

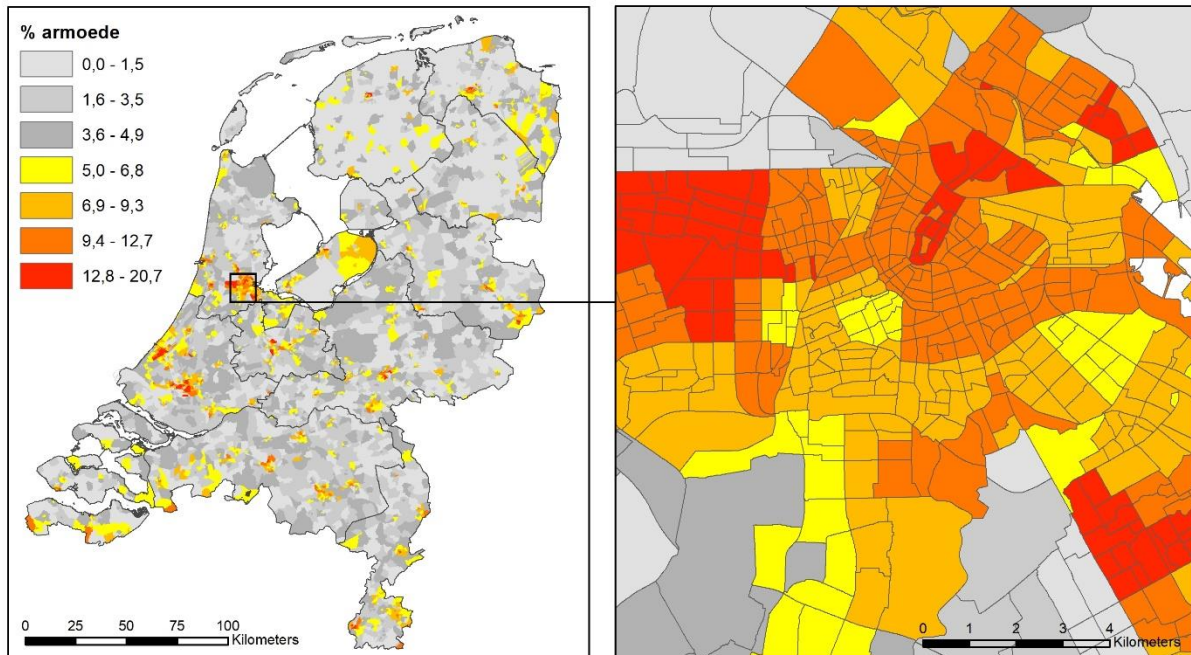
Map example Armoedekaart 2017 (Postcode 4)

C:\Work\VUmc-GECCO\Geodata\Source_data\Social_environment\SCP\Armoede2017_PC4.mxd



Map example Armoedekaart 2017 (Neighborhoods)

C:\Work\VUmc-GECCO\Geodata\Source_data\Social_environment\SCP\Armoede2017_PC4.mxd



Variables

Tables 1 and 2 provide an overview of status score variables that are available in the Input and output data.

Table 1: Overview of attribute input data in SCP poverty map 2017 (Postcode 4)

Variable name	Description	Original dataset
INWONER	Total number of inhabitants 2017	CBS_PC4_2017_v1
Km2	Postal 4 area in km2	CBS_PC4_2017_v1
BEV_DICHTH	Population density per km2	CBS_PC4_2017_v1
gm_naam	Postal 4 code in 4 digits	regionaal_gemeente_pc4.ods
postcodenu	Total number of inhabitants in 1997 to 2017	regionaal_gemeente_pc4.ods
p_totaal	% total poverty per PC4 zone 2017	regionaal_gemeente_pc4.ods
p_volw	% adult poverty per PC4 zone 2017	regionaal_gemeente_pc4.ods
p_kind	% child poverty per PC4 zone 2017	regionaal_gemeente_pc4.ods

Table 2: Overview of attribute data in SCP poverty map 2017 (Neighborhoods)

Variable name	Description	
BU_CODE	Neighborhood code	buurt_2017
SUM_p_tot1	Neighborhood total poverty % (summed area weighted scores)	SCP_armoede2017_buurt
SUM_p_vol1	Neighborhood adult poverty %	SCP_armoede2017_buurt

SUM_p_knd1	(summed area weighted scores) Neighborhood child poverty % (summed area weighted scores)	SCP_armoede2017_buurt
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Data source

The Netherlands Institute for Social Research – SCP, is a government agency which conducts research into the social aspects of all areas of government policy. The main fields studied are health, welfare, social security, the labour market and education, with a particular focus on the interfaces between these fields. The reports published by SCP are widely used by government, civil servants, local authorities and academics.

Methodology

The SCP published the methodology used for their poverty product both in Dutch and English (summary):

<https://www.scp.nl/publicaties/publicaties/2018/11/23/de-scp-methode-voor-het-meten-van-armoede>

<https://english.scp.nl/publications/publications/2018/11/23/the-scp-method-for-measuring-poverty>

Contact information

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Ook bereikbaar via het contactformulier op http://www.scp.nl/Stuur_een_bericht_naar?ref=18885.

Terms and conditions

Data is freely available and for public use. In case of reporting research based on SCP data reference to the SCP dataset should be made.

Suggested or required way of data referencing

Hulst, B. van en S. Hoff (2019). *Theoretische benaderingen van armoede*. In: Armoede in kaart: 2019. Geraadpleegd op 23 September 2019 via <https://digitaal.scp.nl/armoedeinkaat2019/theoretische-benaderingen-van-armoede>

List of references

CBS (2017). *Revisie inkomensstatistiek*. Den Haag: Centraal Bureau voor de Statistiek.

Hoff, S., J.M. Wildeboer Schut, B. Goderis en C. Vrooman (2016). *Armoede in Kaart 2016*. Den Haag: Sociaal en Cultureel Planbureau.

Goderis, B., B. van Hulst, J.M. Wildeboer Schut en M. Ras (2018). *De SCP-methode voor het meten van armoede. Herijking en revisie*. Den Haag: Sociaal en Cultureel Planbureau.

SCP (2019). *Armoede in kaart*, Sociaal en Cultureel Planbureau, Den Haag
<https://digitaal.scp.nl/armoedeinkaat2019/assets/pdf/armoedeinkaat2019.pdf>

Appendix A: Geospatial procedure linking poverty values to postcodemap

- Save single worksheet with PC4 data from regionaal_gemeente_pc4.ods to Armoede_SCP_2017_pc4.xls (Excelsheet 97-2003 Workbook - xls)
- Join Armoede_SCP_2017_pc4.xls to CBS_PC4_2017_v1.shp
- Export joined table to a new polygon feature layer: SCP_armoede2017_PC4 .shp (Number of polygons: 4.066)

Appendix B: Transformation of PC4 values 2017 to neighborhood values 2017

- Export Buurt_2017.shp with only the fields BU_CODE, BU_NAAM, OPP_TOT, OPP_LAND and OPP_WATER to a file named 'Buurt2017_4join.shp'
- Carry out union between buurt2017_4join.shp and SCP_armoede2017_PC4.shp, name result 'Union_Buurt2017_4join_SCP_armoede2017_PC4.shp'
- Start editing session, select all and explode multipart features to single part features
- Remove all records with poverty values < 0 (these should be 'neighborhoods' that consist completely of large water bodies).
- Stop editing (save edits)
- Check for neighborhoods smaller than 0.5 hectares (OPP_TOT field will have field of zero which will give funny results) and change the area value of these fields to 1 hectare
- Add field 'p_tot17Xm2' (Type Double)
- Add field 'p_vol17Xm2' (Type Double)
- Add field 'p_knd17Xm2' (Type Double)
- Add field 'Area_new'
- Calculate geometry field 'Area_new' in m2
- Calculate field 'p_tot17Xm2' : $([p_totaal] * [Area_new]) / ([OPP_TOT] * 10000)$
- Calculate field 'p_vol17Xm2' : $([p_volw] * [Area_new]) / ([OPP_TOT] * 10000)$
- Calculate field 'p_knd17Xm2' : $([p_kind] * [Area_new]) / ([OPP_TOT] * 10000)$
- Dissolve on field BU-code with statistical fields p_tot17Xm2 (SUM), p_vol17Xm2 (SUM) and p_knd17Xm2 (SUM).

Filename: SCP_armoede2017_buurt .shp (Number of polygons: 13.209)

