

## **Metadata on dataset 1 - Data on public understandings of and attitudes towards carbon-smart urban green infrastructure in Kumpula, Helsinki**

**Data collection event:** *"Mapping carbon-smart green spaces in Kumpula"* -survey.

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**Suggested citation:** Lampinen J, García-Antúnez O, Olafsson AS, Kavanagh KC, Gulstrud NM, Raymond CM (2022) Data from *"Mapping carbon-smart green spaces in Kumpula"* - survey. The CO-CARBON -project.

**Target population:** Adult (> 15 years old) residents of the Helsinki city district Kumpula.

**Data collection method:** Public participatory GIS -survey.

**Approach to sampling:** Mixed-mode approach, including random sample of 1 500 households contacted with letters of invitation, outreach through local newspaper, and social media engagement. The address data relevant to sending letters of invitation to the target population was acquired from Digital and population data services agency (DVV, decision DVV/1296/2021-2), and destroyed when the data collection came to an end.

**Data collection time:** 26.3.-26.5.2021

**Data variables published as open access (see csv. "Dataset\_1\_Var\_description" for full description of variable names, response options, and verbatim formulation):**

- **Datasheet:** Dataset\_1\_Aspatial\_survey / survey questions without a spatial reference
  - **Respondent\_ID** / pseudonym linking the responses to each question by the same respondent together
  - **Publication\_ID** / code linking all responses originating within a given version of the survey instrument together
  - **Submitted\_time, First\_active\_time** / dates and times at which response took place
  - **Definition** / qualitative description of what each respondents understands as "carbon-smart urban green infrastructure"
  - **UGSImpact\_var** / beliefs of the impact of urban green infrastructure on climate change
  - **UGSImpact\_elab** / qualitative descriptions of the reasons behind the beliefs regarding the impact of urban green infrastructure on climate change
  - **Aw\_globalwarm, Aw\_CSS, Aw\_CSSvegtyp** / self-reported awareness of several statements relating to ecological knowledge on climate change and carbon ecology.
  - **AL\_pref\_var** / selection of the preferred allotment gardens type elicited through photographic stimuli with three archetypes with differing carbon potential.
  - **AL\_why** / qualitative description of reasons behind the selected archetype.
  - **AL\_percp\_var** / selection of the allotment garden archetype with the highest perceived carbon potential.
  - **LW\_pref\_var** / selection of the preferred urban meadow type elicited through photographic stimuli with three archetypes with differing carbon potential.

- **LW\_why** / qualitative description of reasons behind the selected archetype.
  - **LW\_percp\_var** / selection of the urban meadow archetype with the highest perceived carbon potential.
  - **WW\_pref\_var** / selection of the preferred urban waterway type elicited through photographic stimuli with three archetypes with differing carbon potential.
  - **WW\_why** / qualitative description of reasons behind the selected archetype.
  - **WW\_percp\_var** / selection of the urban waterway archetype with the highest perceived carbon potential.
  - **FO\_pref\_var** / selection of the preferred urban forest type elicited through photographic stimuli with three archetypes with differing carbon potential.
  - **FO\_why** / qualitative description of reasons behind the selected archetype.
  - **FO\_percp\_var** / selection of the urban forest archetype with the highest perceived carbon potential.
  - **AT\_deadwood, AT\_meadows, AT\_streams** / attitudinal statements regarding priorities for managing urban green infrastructure to promote biodiversity.
  - **AT\_sppCSS, AT\_youngforest, AT\_moreforest** / attitudinal statements regarding priorities for managing urban green infrastructure to promote carbon sequestration and storage.
  - **AT\_waterneater, AT\_lawnrelax, AT\_safety** / attitudinal statements regarding priorities for managing urban green infrastructure to promote human well-being and aesthetics.
  - **AT\_IGS, AT\_UGSdestruct, AT\_densify** / attitudinal statements regarding priorities for urban form and broader urban planning.
  - **EJ\_particip, EJ\_listen, EJ\_culture, EJ\_access, EJ\_management, EJ\_voluntarywork, EJ\_physicalaccess** / attitudinal statements eliciting issues of distributional, procedural and representation environmental justice.
  - **EJ\_carbonopportunities, EJ\_carbonequity** / attitudinal statements eliciting potential issues of carbon / low-carbon gentrification.
  - **POL\_X** / attitudinal statements assessing social acceptability of specific carbon-smart policies.
  - **Access\_X** / selection of accessible urban green space types to which the respondent had access.
  - **Channel\_var** / information on how the participant got to know about the survey.
- **Datasheet:** Dataset\_1\_Spatial\_Important / survey questions linked to coordinates
    - **Respondent ID** / pseudonym linking the responses to each question by the same respondent together
    - **Index** / number of mapped points by each ID
    - **wkt** / WGS84 longitude and latitude of mapped points describing green spaces in Kumpula personally important to the respondent
    - **Why is this space important to you?** / qualitative description of why green space above is important to the respondents
- **Datasheet:** Dataset\_1\_Spatial\_CS / survey questions linked to coordinates
    - **Respondent ID** / pseudonym linking the responses to each question by the same respondent together
    - **Index** / number of mapped points by each ID
    - **wkt** / WGS84 longitude and latitude of mapped points describing green spaces in Kumpula perceived to be “carbon-smart”.

- **What made you think so?** / qualitative description of why green space above is perceived to be “carbon-smart”.

**Data variables published as metadata descriptives only:**

- **Socio-demographic context of each respondent** / numeric variables describing respondent age, gender, income, education and employment with ordered or unordered categories
- **Respondent domicile** / coordinates in WGS84 of the road intersection nearest to respondent’s home

**Reason for not publishing all survey data as open access:** Certain variables in the data are personal data: respondent domicile is a direct identifier and socio-demographic variables indirect identifiers. Certain respondents are underaged: despite targeting the survey to adult residents, some underaged respondents took the survey. The data produced by these respondents has been deleted.

**Duration of storage of variables only published as metadata:** Six years.

**Location of storage of variables only published as metadata:** University of Helsinki hard drives.

**Publications produced from the data, with more information on the data:**

Lampinen J, García-Antúnez O, Olafsson AS, Kavanagh KC, Gulsrud NM, Raymond CM (2022) Envisioning carbon-smart and just urban green infrastructure. *Urban Forestry & Urban Greening* 75: 127682. <https://doi.org/10.1016/j.ufug.2022.127682>

Kavanagh KC (2022) Identifying Intrinsic, Instrumental, and Relational Values in Kumpula, Helsinki: A Participatory Mapping Study. Master’s thesis. University of Helsinki, Faculty of Biological and Environmental Sciences. <http://hdl.handle.net/10138/344825>