



Open City Toolkit: hacia ciudades más abiertas y participativas

Grupo GEOTEC
Universitat Jaume I

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1. *Introducción*

Geo-c: programa de doctorado en ciudades abiertas:

- Ciencias geoespaciales, datos abiertos y ciudades inteligentes
- Acciones Marie Skłodowska-Curie, International Training Networks (ITN), European Joint Doctorates (EJD)
- Open City Toolkit y Dev-Corner

<http://geo-c.eu/>

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2. *GEO-C (Joint Doctorate in Geoinformatics: Enabling Open Cities)*

Participantes:

- 3 universidades: Münster (Alemania), Lisboa (Portugal) y Castelló de la Plana
- 15 estudiantes
- 3 postdocs
- 16 profesores con roles de supervisores y cosupervisores
- Consejo asesor (3 ámbitos)
- 9 socios (empresas/ayuntamientos)

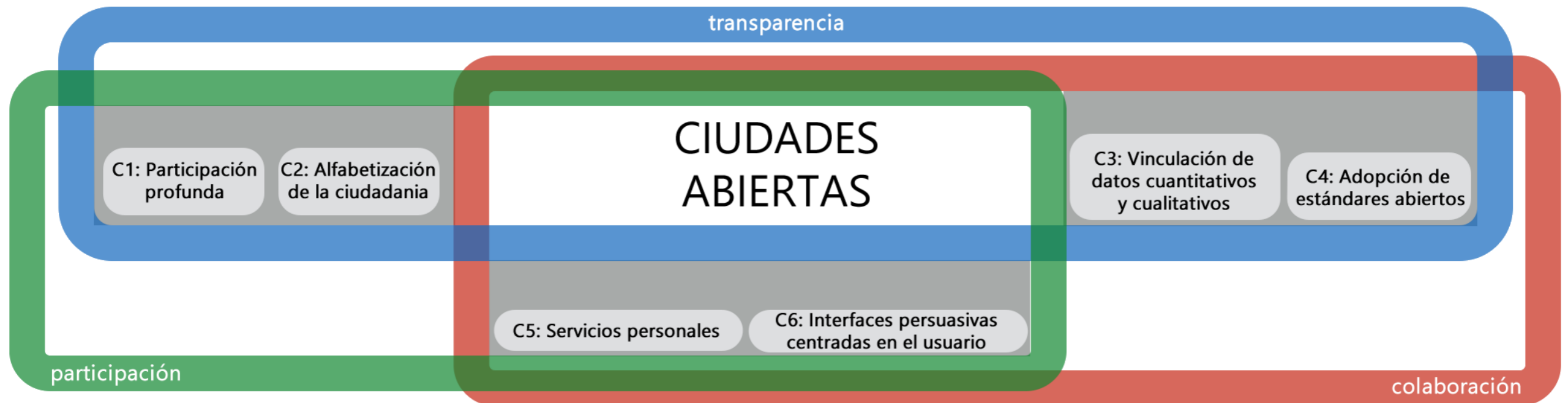


2. *GEO-C (Joint Doctorate in Geoinformatics: Enabling Open Cities)*

Funcionamiento:

- 5 estudiantes en cada sitio
- 3 años de doctorado (4 años de proyecto)
 - Primer año propuesta
 - Tercer año lectura de tesis
- 6 meses de estancia
- 1 mes de estancia en empresa
- Seminarios virtuales cada mes
- Requisitos: publicaciones (revista y congresos), asistir escuela de verano, organizar un workshop, cursos de doctorado ...

3. *15 tesis doctorales, un mismo objetivo*



3. *15 tesis doctorales, un mismo objetivo*

Retos de investigación	Tópicos GEO-C
Participación profunda (C1)	<ul style="list-style-type: none">• Identificar y comprender los principales factores de motivación que caracterizan a la participación ciudadana en línea• Explorar el concepto de encuentros geoespaciales virtuales para salvar las diferencias entre Información Geográfica Voluntaria (VGI) y PPGIS• Los paneles públicos como integradores en ciudades abiertas e inteligentes

3. *15 tesis doctorales, un mismo objetivo*

Retos de investigación	Tópicos GEO-C
Alfabetización de la ciudadanía (C2)	<ul style="list-style-type: none">• Herramientas educativas para que los niños y niñas para formar ciudadanos científicos• Mapas activos de datos abiertos que faciliten la comprensión por los diferentes grupos de ciudadanos

3. *15 tesis doctorales, un mismo objetivo*

Retos de investigación	Tópicos GEO-C
Unión de datos cuantitativos y cualitativos (C3)	<ul style="list-style-type: none">• Métodos para entrelazar mediciones y predicciones espacio-temporales cuantitativas con evaluaciones cualitativas sobre la ubicación de un individuo• Métodos para reducir la escala en los datos climáticos a nivel de la ciudad• Análisis predictivos para la mejora de la movilidad de los ciudadanos mediante las redes sociales y las huellas digitales• Análisis de datos espacio-temporales sobre la criminalidad para predecir puntos negros de criminalidad en las ciudades a partir de datos proporcionados por la Web 2.0

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3. *15 tesis doctorales, un mismo objetivo*

Retos de investigación	Tópicos GEO-C
La adopción de estándares abiertos (C4)	<ul style="list-style-type: none">• Framework para la creación y despliegue de aplicaciones basadas en estándares para la participación ciudadana• Integración de múltiples fuentes de datos para el acceso y la exposición de flujos en tiempo real mediante estándares

3. *15 tesis doctorales, un mismo objetivo*

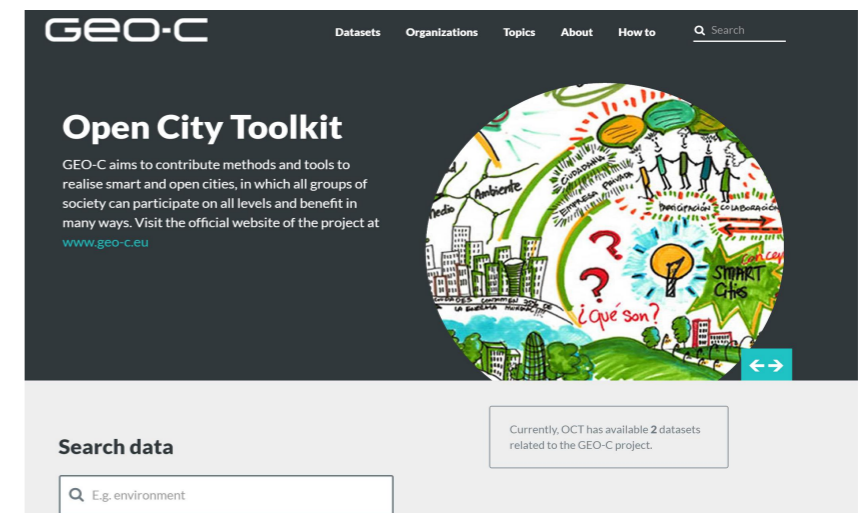
Retos de investigación	Tópicos GEO-C
Servicios personales (C5)	<ul style="list-style-type: none">• Métodos para el intercambio de la información y protección de la privacidad basados en la ubicación• Estudio de los roles y las relaciones sociales entre dispositivos y/o servicios cercanos

3. *15 tesis doctorales, un mismo objetivo*

Retos de investigación	Tópicos GEO-C
Interfaces persuasivas (C6)	<ul style="list-style-type: none">• Técnicas de gamificación para estimular el comportamiento verde y saludable• Interfaces sensibles a la localización para producir cambios en el comportamiento de los ciudadanos

4. Open City Toolkit

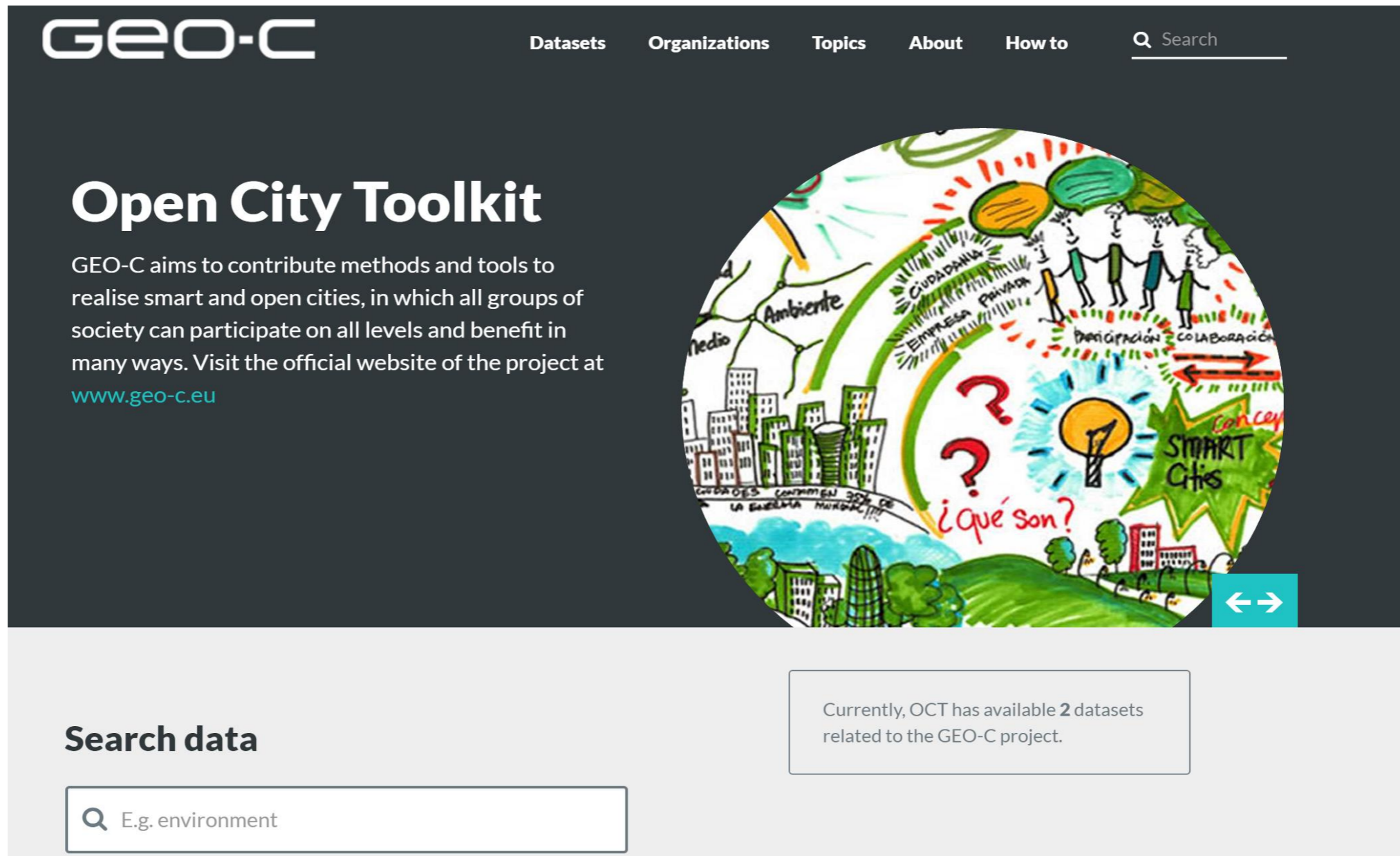
- Un conjunto de herramientas para la mejora de la transparencia
- Un conjunto de ejemplos de aplicaciones de código abierto, datos abiertos y servicios
- Un conjunto de guías y/o directrices sobre cómo impulsar hacia una ciudad abierta
- Un «pegamento» para conectar los recursos, aplicaciones y servicios para el fomento de una ciudad abierta



<http://giv-oct.uni-muenster.de:5000/>

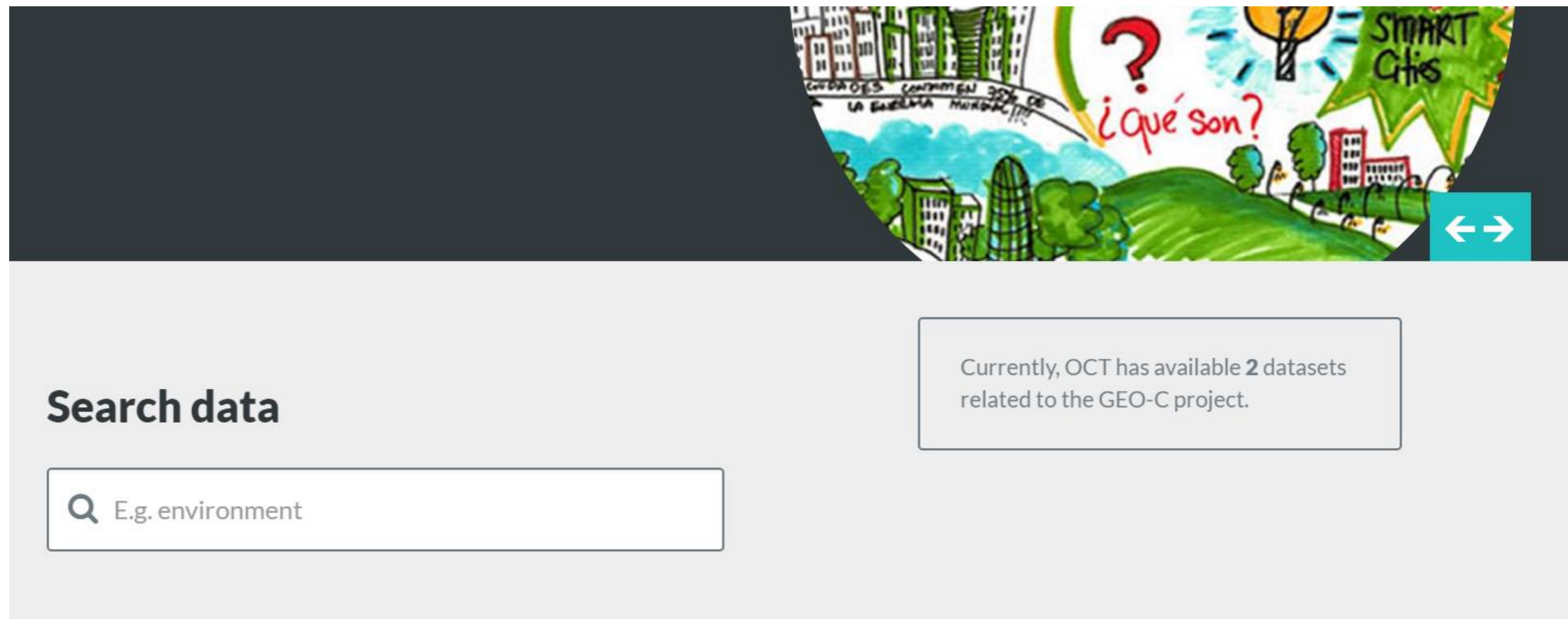
12

4. Open City Toolkit



The screenshot shows the GEO-C website interface. At the top, there is a navigation bar with the GEO-C logo on the left and menu items: Datasets, Organizations, Topics, About, How to, and a search bar. The main content area features a large circular illustration with various elements: a cityscape, a sun, a lightbulb, and text in Spanish including 'Ambiente Medio', 'Ciudadanía', 'Empresa Privada', 'Participación', 'Colaboración', '¿Qué son?', and 'SMART Cities'. Below the illustration is a search bar with the text 'Search data' and a placeholder 'E.g. environment'. To the right of the search bar, a text box states: 'Currently, OCT has available 2 datasets related to the GEO-C project.'

4. Open City Toolkit







Search data

Currently, OCT has available 2 datasets related to the GEO-C project.

Q E.g. environment

Browse by Topic



4. *Open City Toolkit*

🔍 E.g. environment

Browse by Topic



Apps



Datasets

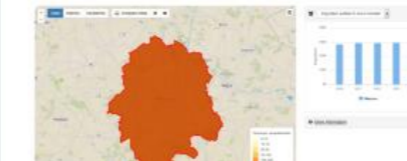
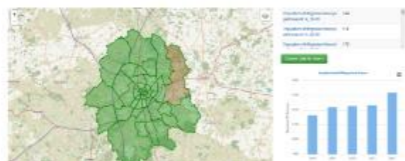


Guidelines



Services

Featured Projects



4. Open City Toolkit

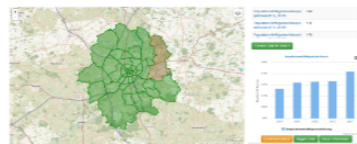
Apps

Datasets

Guidelines

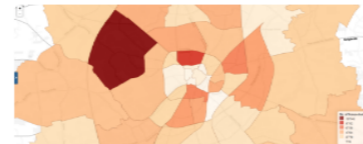
Services

Featured Projects



Migration in Muenster (2010-2014)

Visualization of statistical data about migrat...



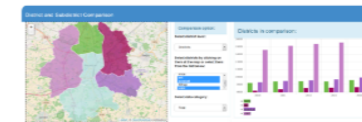
Households of Muenster (2010-2014)

Visualization of statistical data about househ...



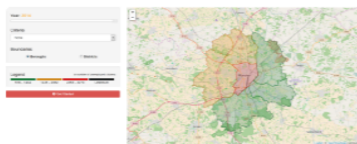
Population of Muenster (2010-2014)

Visualization of statistical data about the po...



Employees Subject to Social Insurance Contributions in Muenster (2010-2014)

Visualization of statistical data about employ...



Unemployment in Muenster (2010-2014)

Visualization of statistical data about unempl...

Recent Additions

Tweets

4. Open City Toolkit


Muenster (2010-2014)
Visualization of statistical data about unempl...


Recent Additions


Test
Test description
[CSV](#) [KML](#) [PDF](#) [api](#)


Statistics about Muenster
This dataset contains data and facts about Muenster.
[PDF](#)


Tweets

 **GEO-C EU project** @geoC_EU
The 15 GEO-C PhD students will meet for a week in Lisbon in a "Retreat" bit.ly/1VQbxkg
09 May

 GEO-C EU project Retweeted

 **Manu Fernández** @manufermandez
Thinking smart cities in present tense bit.ly/1Z7nkbF
03 May

 **GEO-C EU project** @geoC_EU
Controversies On Urban [#Participation](#) And Participatory [#Sensing](#) by @manuchis on @geotecUJI blog bit.ly/1SOTrP2 @design_thecity
27 Apr

 **GEO-C EU project** @geoC_EU
Where citizens think, design and create solutions for the city they want smartcityapphack.com

About GEO-C Powered by

4. *Open City Toolkit*



GEO-C EU project @geoC_EU



Where citizens think, design and create solutions for the city they want smartcityapphack.com

About GEO-C

CKAN API

Open Knowledge Foundation

OPEN DATA

Powered by



Language: English

4. Open City Toolkit

GEO-C Datasets Organizations Topics About How to Search

Home / Datasets

Organizations

- Tests (1)
- Open City Toolkit (1)

Groups

- Datasets (1)
- Apps (1)

Tags

- unemployment (1)
- statistics (1)
- population (1)
- household (1)
- employment (1)

Formats

- PDF (2)

Add Dataset

Search datasets...

2 datasets found Order by: Relevance

Test

Test description

CSV KML PDF api

Statistics about Muenster

This dataset contains data and facts about Muenster.

PDF

You can also access this registry using the [API](#) (see [API Docs](#)).

4. Open City Toolkit

The screenshot shows the GEO-C website's 'Organizations' page. The header includes the GEO-C logo and navigation links for Datasets, Organizations (highlighted), Topics, About, and How to. A search bar is located in the top right. The main content area features a sidebar with a 'What are Organizations?' section, a central 'Add Organization' button, a search input field, and a list of three organizations. The 'Open City Toolkit' organization is highlighted with a blue border and contains 1 Dataset. The 'Tests' organization also contains 1 Dataset. The 'WWU Smart Cities Study Project' organization contains 0 Datasets.

GEO-C Datasets **Organizations** Topics About How to


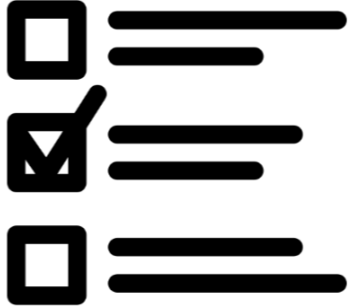

[Home](#) / Organizations

What are Organizations?

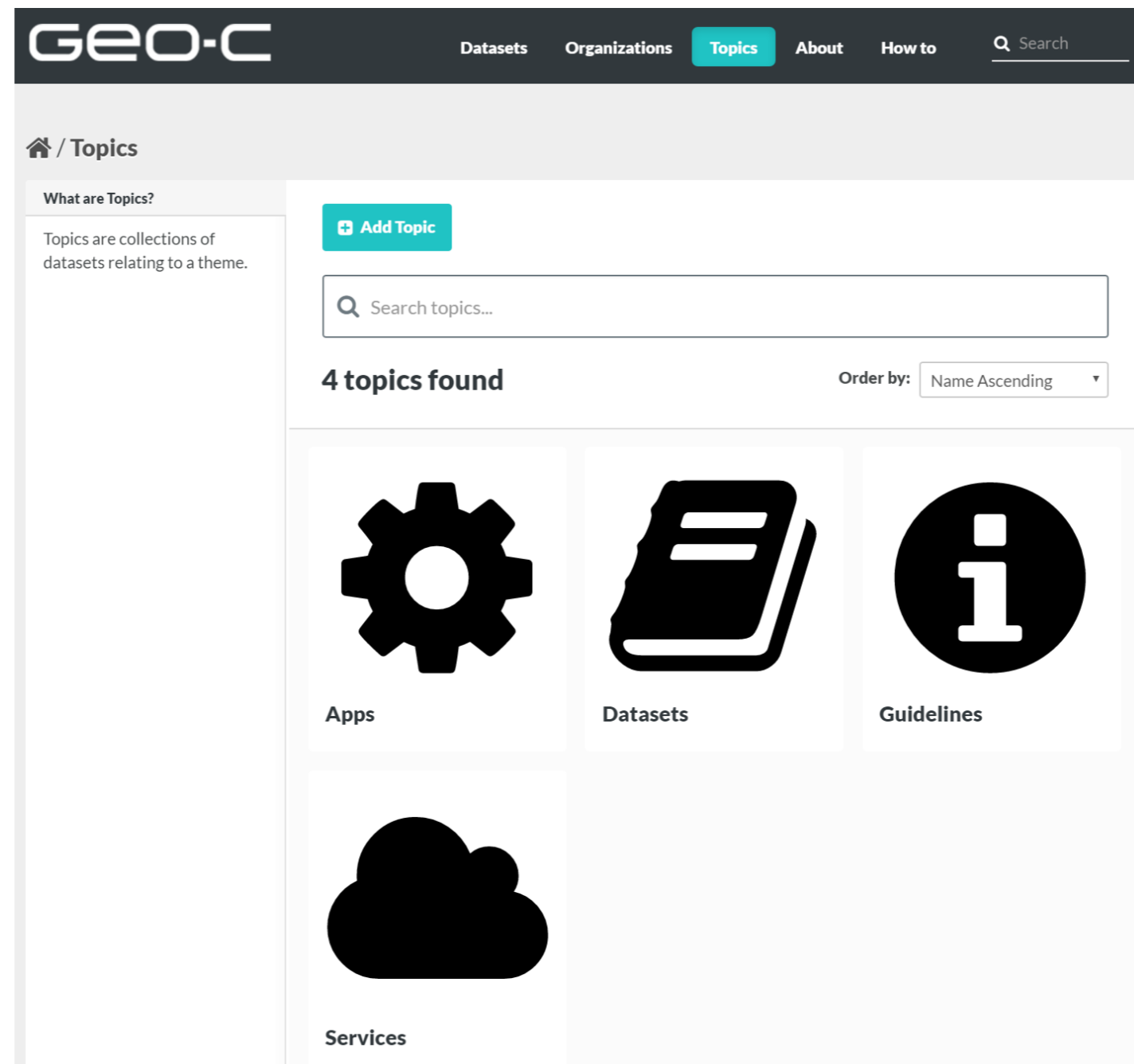
CKAN Organizations are used to create, manage and publish collections of datasets. Users can have different roles within an Organization, depending on their level of authorisation to create, edit and publish.

[+ Add Organization](#)

3 organizations found Order by:

- **Open City Toolkit**
This organization contains all resources generated and used by the Open City...
1 Dataset
- **Tests**
This organization contains all resources useful for (internal) testing within...
1 Dataset
- **WWU Smart Cities Study Project**
This organization contains resources from the Smart Cities Study Project. The...
0 Datasets

4. Open City Toolkit



The screenshot shows the 'Topics' page on the GEO-C website. The navigation bar at the top includes 'Datasets', 'Organizations', 'Topics' (highlighted), 'About', and 'How to', along with a search bar. The main content area features a sidebar with a 'What are Topics?' section explaining that topics are collections of datasets. The main area has an 'Add Topic' button, a search bar, and a list of 4 topics found, ordered by name ascending. The topics are: Apps (gear icon), Datasets (book icon), Guidelines (info icon), and Services (cloud icon).

GEO-C Datasets Organizations **Topics** About How to Search

🏠 / Topics

What are Topics?
Topics are collections of datasets relating to a theme.

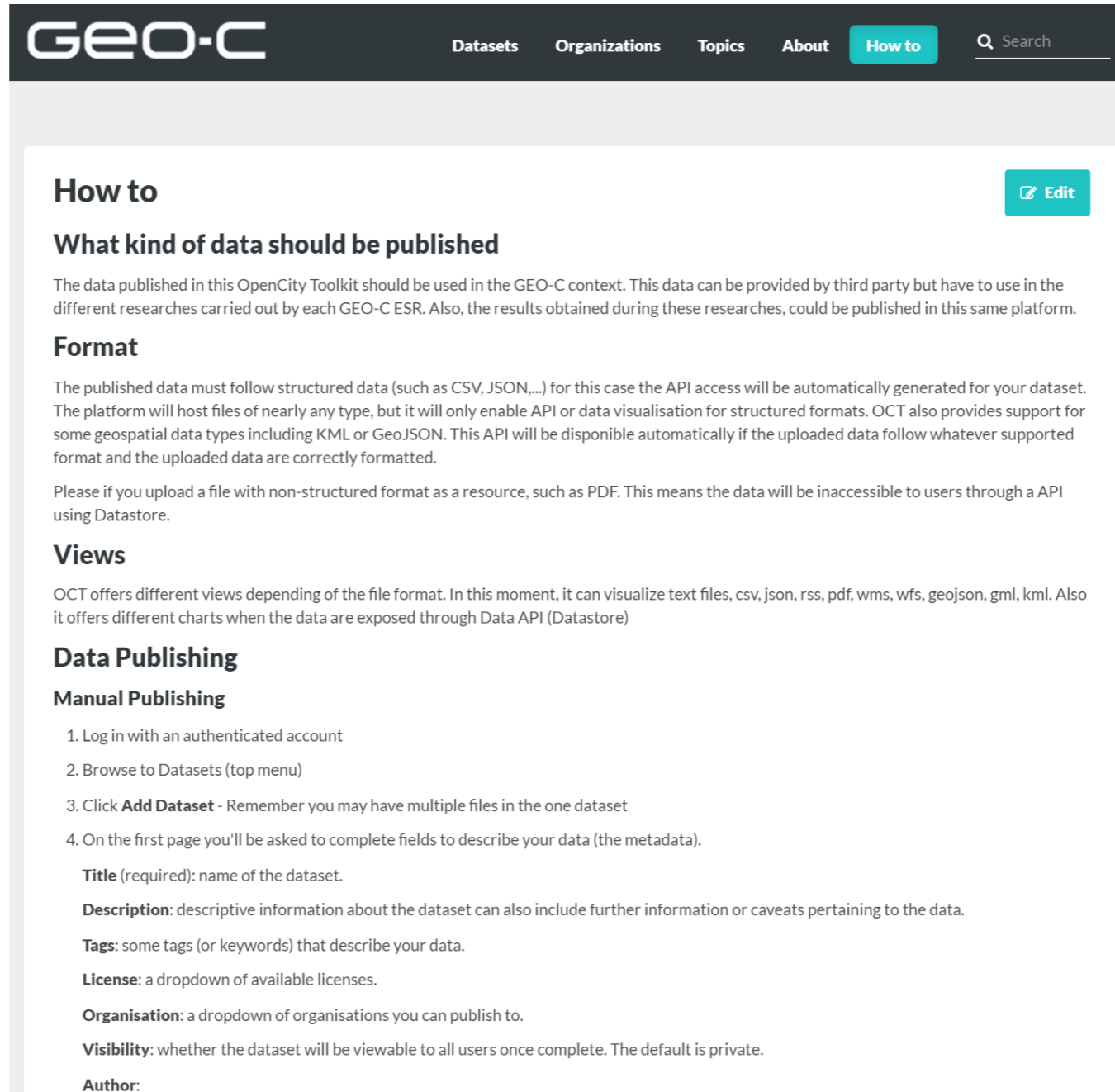
Add Topic

Search topics...

4 topics found Order by: Name Ascending

- Apps** (Gear icon)
- Datasets** (Book icon)
- Guidelines** (Info icon)
- Services** (Cloud icon)

4. Open City Toolkit



The screenshot shows the GEO-C website interface. The top navigation bar includes links for Datasets, Organizations, Topics, About, and How to (which is highlighted in a teal box). A search bar is located on the right side of the navigation bar. The main content area is titled 'How to' and features an 'Edit' button in a teal box. The content is organized into several sections: 'What kind of data should be published', 'Format', 'Views', 'Data Publishing', and 'Manual Publishing'. The 'Manual Publishing' section contains a numbered list of steps and detailed instructions for each field in the publishing form.

GEO-C Datasets Organizations Topics About **How to** Search

How to Edit

What kind of data should be published

The data published in this OpenCity Toolkit should be used in the GEO-C context. This data can be provided by third party but have to use in the different researches carried out by each GEO-C ESR. Also, the results obtained during these researches, could be published in this same platform.

Format

The published data must follow structured data (such as CSV, JSON,...) for this case the API access will be automatically generated for your dataset. The platform will host files of nearly any type, but it will only enable API or data visualisation for structured formats. OCT also provides support for some geospatial data types including KML or GeoJSON. This API will be disponible automatically if the uploaded data follow whatever supported format and the uploaded data are correctly formatted.

Please if you upload a file with non-structured format as a resource, such as PDF. This means the data will be inaccessible to users through a API using Datastore.

Views

OCT offers different views depending of the file format. In this moment, it can visualize text files, csv, json, rss, pdf, wms, wfs, geojson, gml, kml. Also it offers different charts when the data are exposed through Data API (Datastore)

Data Publishing

Manual Publishing

1. Log in with an authenticated account
2. Browse to Datasets (top menu)
3. Click **Add Dataset** - Remember you may have multiple files in the one dataset
4. On the first page you'll be asked to complete fields to describe your data (the metadata).

Title (required): name of the dataset.

Description: descriptive information about the dataset can also include further information or caveats pertaining to the data.

Tags: some tags (or keywords) that describe your data.

License: a dropdown of available licenses.

Organisation: a dropdown of organisations you can publish to.

Visibility: whether the dataset will be viewable to all users once complete. The default is private.

Author:

4. Open City Toolkit

GEO-C Datasets Organizations Topics About How to Search

Home / Organizations / Tests / TestDataset

TestDataset

Followers
0
[Follow](#)

Organization

Tests
This organization contains all resources useful for (internal) testing within the GEO-C project. [read more](#)

TestDataset

Test description

Data and Resources

- CSVTEST** CSVTEST [Explore](#)
- KMLtest** [Explore](#)
- Pdfstest** [Explore](#)
- service** [Explore](#)

Additional Info

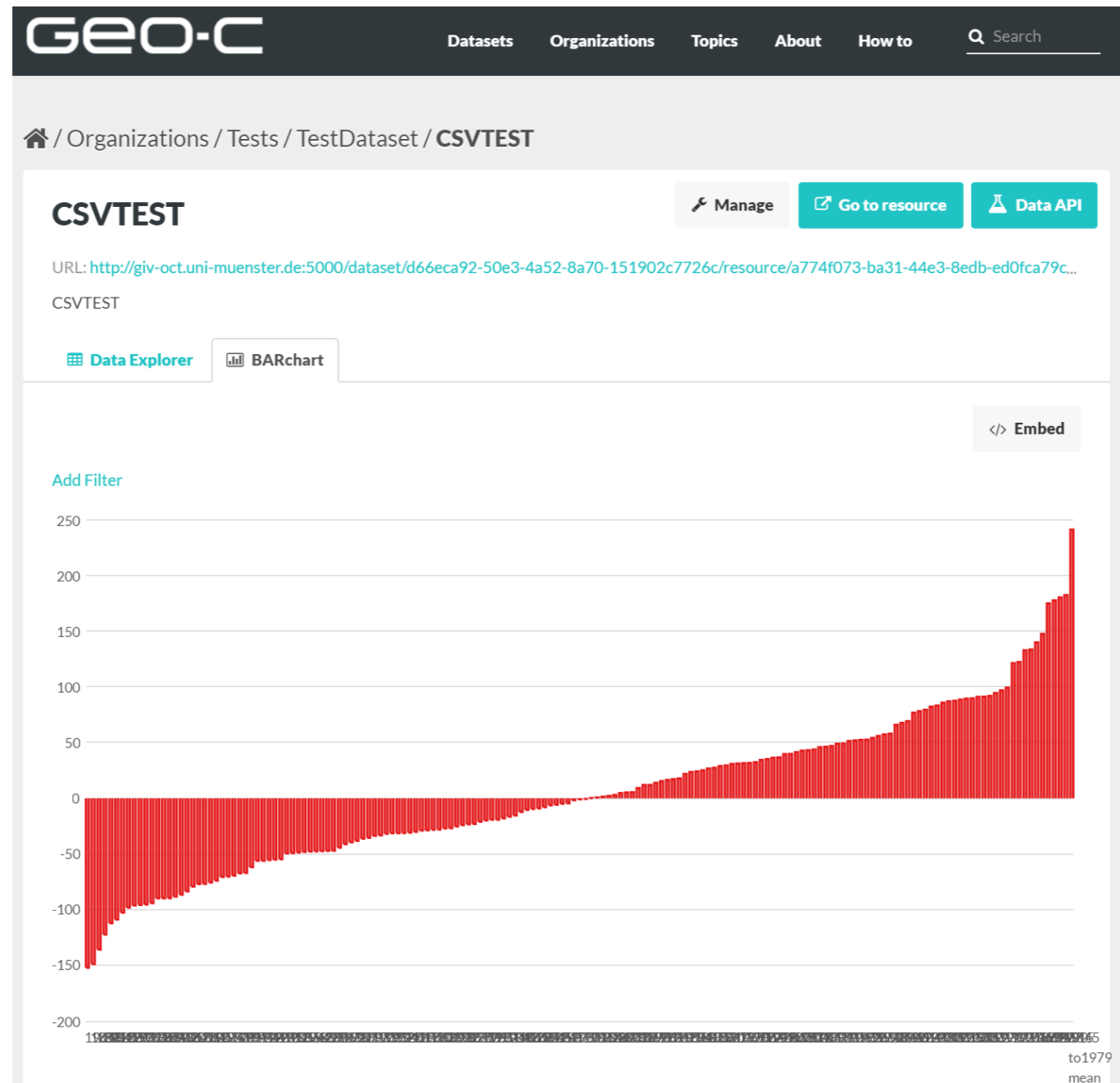
Field	Value
State	active
Last Updated	May 10, 2016, 18:36
Created	April 12, 2016, 08:58

4. Open City Toolkit

The screenshot displays the GEO-C Open City Toolkit interface. At the top, the GEO-C logo is on the left, and navigation links for 'Datasets', 'Organizations', 'Topics', 'About', and 'How to' are on the right, along with a search bar. Below the navigation, the breadcrumb path is '/ Organizations / Tests / TestDataset / CSVTEST'. The main content area features the dataset title 'CSVTEST' and three action buttons: 'Manage', 'Go to resource', and 'Data API'. A URL is provided: <http://giv-oct.uni-muenster.de:5000/dataset/d66eca92-50e3-4a52-8a70-151902c7726c/resource/a774f073-ba31-44e3-8edb-ed0fca79c...>. Below the URL, there are two tabs: 'Data Explorer' (selected) and 'BARchart'. An 'Embed' button is located in the top right of the data view. The data view includes an 'Add Filter' link, a view selector (Grid, Graph, Map), and a record count of 169. A pagination control shows page 1 of 100. A search bar for the data is also present. The main data table has 8 columns: _id, year, Temp (°C...), Rain (m...), Temp (°C...), Rain (m...), Temp (o...), and Rain (m...). The table contains 17 rows of data.

_id	year	Temp (°C...	Rain (m...	Temp (°C...	Rain (m...	Temp (o...	Rain (m...
1	1845 to1...	4	240.9	15.2	225.9	9.3	915.6
2	1845	-2.5	-112	-1	45.7	-1.4	-41.6
3	1846	1.7	1.3	1.8	30.3	1.2	11.8
4	1847	-2.3	-83.5	0.3	-73.8	0	-67.2
5	1848	0	65.8	-0.7	118.4	-0.1	214.5
6	1849	1	-16.4	-0.3	-47	0.1	-48.8
7	1850	-0.6	-23.4	0.1	-9.5	-0.2	-114.6
8	1851	1	-30.2	-0.4	10.7	0.1	-135.1
9	1852	0.8	-9.1	0.7	111.1	0	297.4
10	1853	0.6	26.5	-0.6	63.4	-0.6	-41.7
11	1854	-1	-89.8	-0.6	-40.8	-0.2	-242.7
12	1855	-1.9	-108.7	0	42.8	-1.1	-171.1
13	1856	-0.2	-47.3	0	-1.8	0	-14.5
14	1857	-0.3	-24.1	1.3	16.1	0.6	-70.6
15	1858	0.2	-148.7	0.5	-36.3	-0.4	-176.4
16	1859	1.1	-47.5	1.2	2.1	0.3	23.6
17	1860	-1.7	2.1	-1.8	144.9	-1.2	167.6

4. Open City Toolkit



4. Open City Toolkit

The screenshot shows the GEO-C website interface. At the top, there is a navigation bar with 'GEO-C' on the left and 'Datasets', 'Organizations', 'Topics', 'About', 'How to', and 'Search' on the right. The main content area is titled 'CSVTEST' and includes a URL 'http://giv-oct.uni-muenster.de:5000/api/action/datastore_create'. A 'Data Explorer' button is visible. A modal window titled 'CKAN Data API' is open, displaying the following API endpoints:

API Action	URL
Create	http://giv-oct.uni-muenster.de:5000/api/action/datastore_create
Update / Insert	http://giv-oct.uni-muenster.de:5000/api/action/datastore_upsert
Query	http://giv-oct.uni-muenster.de:5000/api/action/datastore_search
Query (via SQL)	http://giv-oct.uni-muenster.de:5000/api/action/datastore_search_sql

Below the table, there are query examples:

Querying »

Query example (first 5 results)
http://giv-oct.uni-muenster.de:5000/api/action/datastore_search?resource_id=a774f073-ba31-44e3-8edb-ed0fca79c216&limit=5

Query example (results containing 'jones')
http://giv-oct.uni-muenster.de:5000/api/action/datastore_search?resource_id=a774f073-ba31-44e3-8edb-ed0fca79c216&q=jones

Query example (via SQL statement)

The background shows a data table with columns '_id' and 'year' and a grid view of data points.

4. Open City Toolkit

GEO-C Datasets Organizations Topics About How to Search

Home / Organizations / Tests / TestDataset / KMLtest

KMLtest

[Manage](#) [Go to resource](#) [Data API](#)

URL: <http://giv-oct.uni-muenster.de:5000/dataset/d66eca92-50e3-4a52-8a70-151902c7726c/resource/18743589-f97b-40dc-b096-fe057df31...>

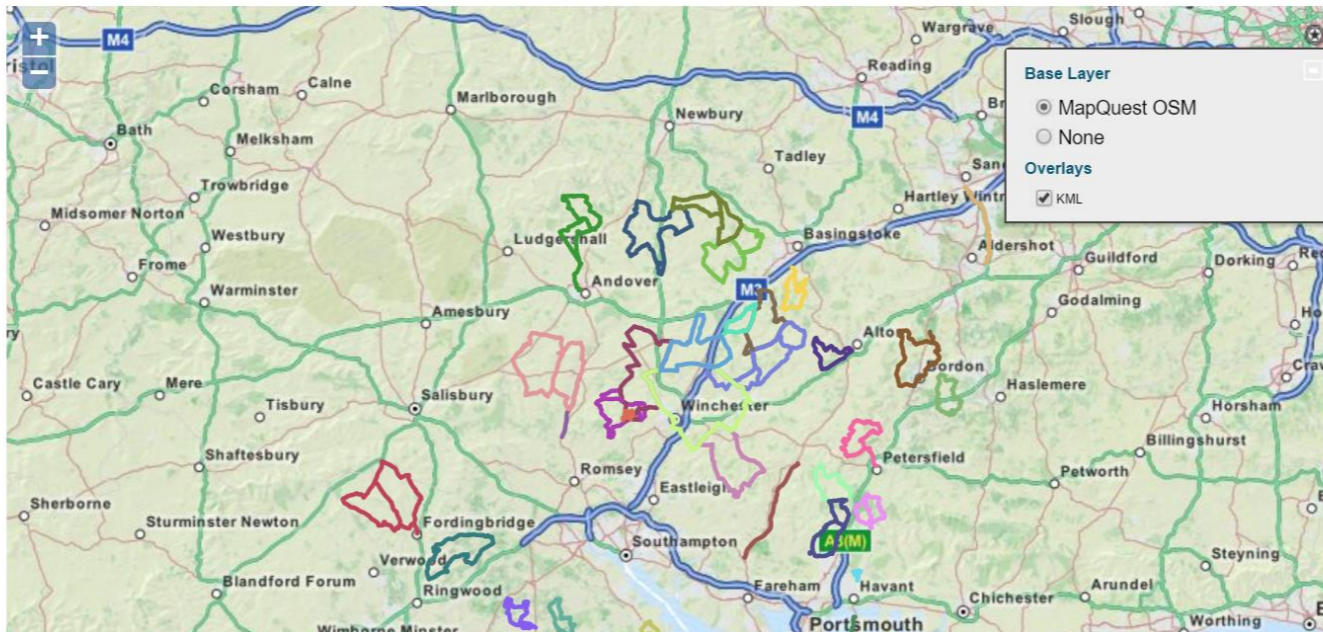
From the dataset abstract

Test description

Source: [TestDataset](#)

[Map viewer](#)

[Embed](#)



The map displays a geographical area in southern England, including cities like Bath, Salisbury, Winchester, and Southampton. It features several colored overlays (polygons) in shades of green, yellow, orange, red, purple, and blue. A legend in the top right corner of the map viewer shows 'Base Layer' with 'MapQuest OSM' selected and 'None' unselected, and 'Overlays' with 'KML' checked.

4. Open City Toolkit

GEO-C Datasets Organizations Topics About How to Search

Home / Organizations / Tests / TestDataset / Pdfctest

Pdfctest

Manage Go to resource

URL: <http://giv-oct.uni-muenster.de:5000/dataset/d66eca92-50e3-4a52-8a70-151902c7726c/resource/f5cf8523-fec5-45fe-bc44-675c0c7098...>


From the dataset abstract

Test description

Source: [TestDataset](#)

PDF

Embed



4. Open City Toolkit

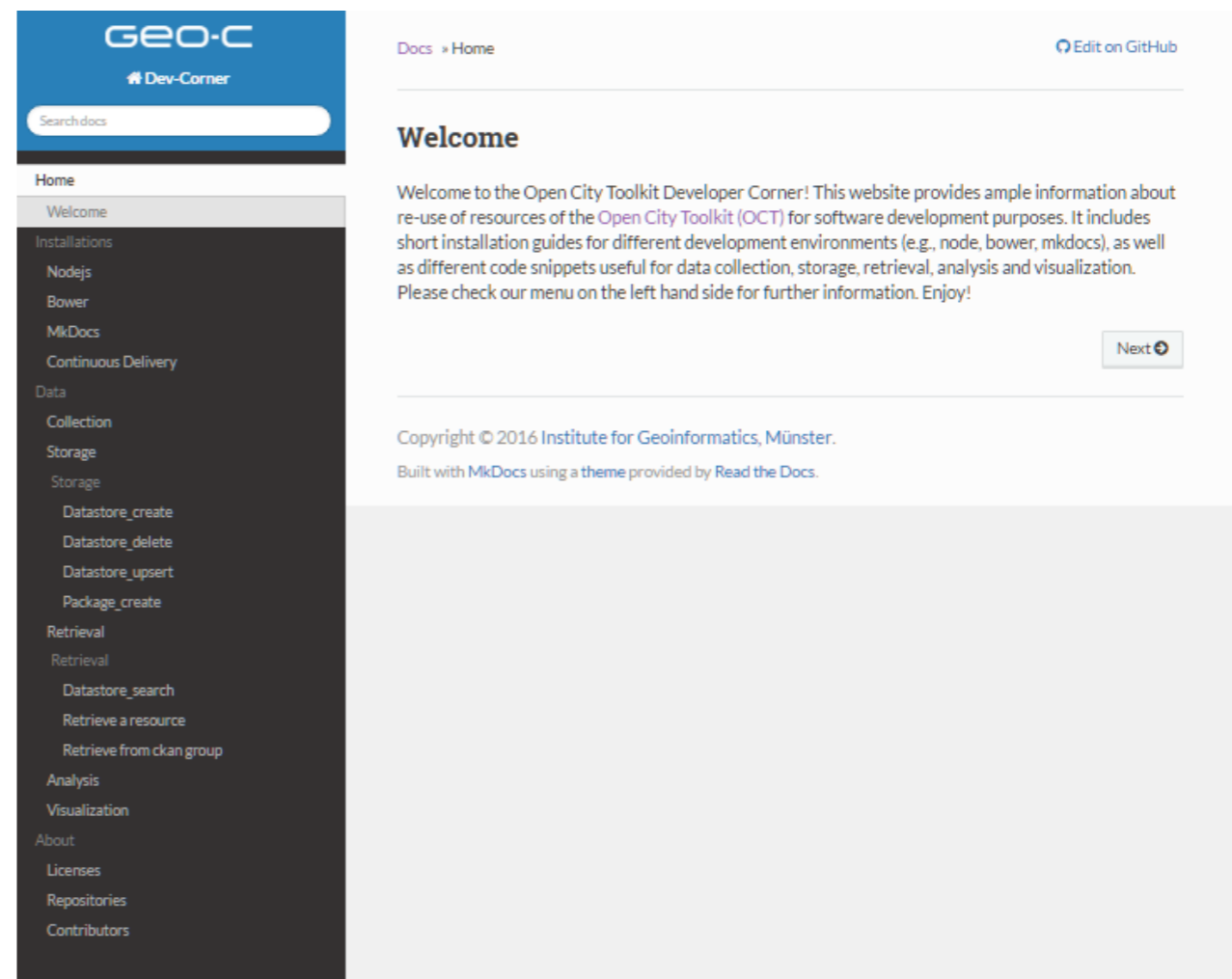
The screenshot displays the GEO-C web application interface. At the top, there is a navigation bar with the GEO-C logo and menu items: Datasets, Organizations, Topics, About, and How to. A search bar is located on the right side of the navigation bar. Below the navigation bar, the breadcrumb trail reads: / Organizations / Tests / TestDataset / service. The main content area features the title 'service' with two buttons: 'Manage' and 'Go to resource'. Below the title, the URL is provided: http://cosmos.surrey.ca/COSREST/rest/services/FH_Restaurants/MapServer. A section titled 'From the dataset abstract' contains a 'Test description' tab and a 'Source: TestDataset' link. A message states: 'There are no views created for this resource yet.' Below this message is a link: 'Not seeing the views you were expecting? Click here for more information.' The page is divided into two main sections: 'Resources' and 'Additional Information'. The 'Resources' section lists several test types: CSVTEST, KMLtest, Pdftest, and service (which is highlighted). The 'Additional Information' section contains a table with the following data:

Field	Value
Last updated	unknown
Created	unknown
Format	api
License	Apache Software License 2.0

Below the 'Resources' list, there is a 'Social' section with links for Google+, Twitter, and Facebook.

5. *Dev-corner*

- Instrucciones como empoderar a los ciudadanos para el uso de las funcionalidades ofrecidas
- Ofrece fragmentos de código para poder explorar la OCT (recuperar, almacenar, analizar o visualizar)
- Ofrece guías para la instalación de entornos de desarrollo
- Utiliza `mkdocs` conectado directamente a Github para su actualización



<http://giv-oct.uni-muenster.de/dev-corner>

6. *Conclusiones*

1. El objetivo es la mejora de las ciudades inteligentes: ciudades más abiertas y participativas; ciudadanos más formados
2. Ciencias geoespaciales como eje vertebrador
3. Tres ámbitos: académico, industria y gobiernos
4. Los resultados de las 15 tesis doctorales serán integrados en la OCT, como buenas prácticas para otros escenarios similares

¿Preguntas?



www.geotec.uji.es @geotecUJI



www.init.uji.es



www.uji.es [@UJI noticias](https://twitter.com/UJI_noticias)