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Confédération suisse
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Eidgenössisches Departement für Umwelt, Verkehr,
Energie und Kommunikation UVEK
Bundesamt für Umwelt BAFU
Abteilung Wald

On data harvesting

Joint Working Party UNECE/FAO Geneva, 31.05.2023



Swiss Open Government Data Platform



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Swiss Open Government Data

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18 datasets

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11.04.2023

Greenhouse gas emissions by sector and by gas

Evolution of Switzerland's greenhouse gas emissions since 1990 in the sectors in accordance with the CO2 Ordinance and broken down by gas. The greenhouse gas emissions from international aviation and navigation as well as the greenhouse gas balance from land use (soil, vegetation) are shown separately.

Territory and environment

Federal Office for the Environment FOEN

11.04.2023

Shares of greenhouse gas emissions from motor fuels in the Transport sector

Evolution of shares in greenhouse gas emissions in the Transport sector from diesel, gasoline, kerosene (national aviation only, civil and military flights) and gas.



Charts can be produced and and re-used

Share

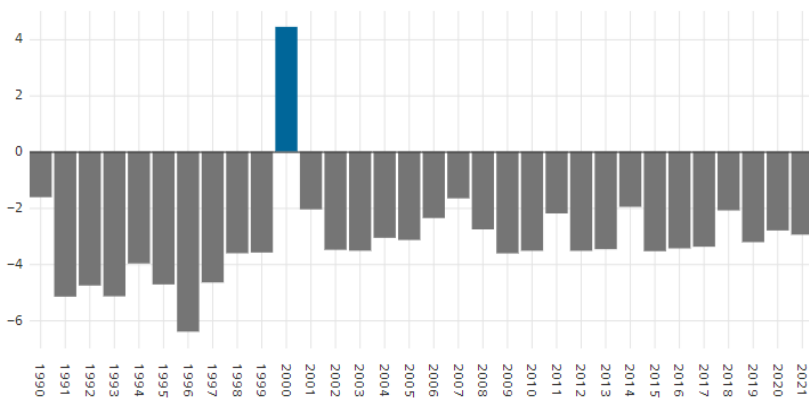
Embed

Greenhouse gas emission from forest land

Metadata

Greenhouse gas: All greenhouse gas, Source of emission: Forest land

Emissions in CO₂ equivalents (Mt)



Dataset: Greenhouse gas emissions by sector and by gas, Latest update: 24.05.2023 14:10

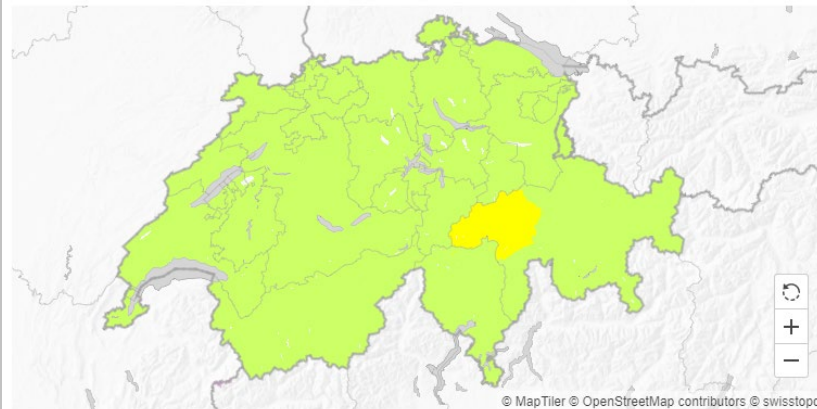
Source: Bundesamt für Umwelt, Abteilung Klima

[Download data](#) [Switch to table view](#) [Learn more about the dataset](#) [Run SPARQL query](#)

Created with visualize.admin.ch

Forest fire danger

Metadata



Danger ratings ● low danger ● moderate danger

Dataset: Forest fire danger, Latest update: 25.05.2023 10:02

Source: Bundesamt für Umwelt BAFU

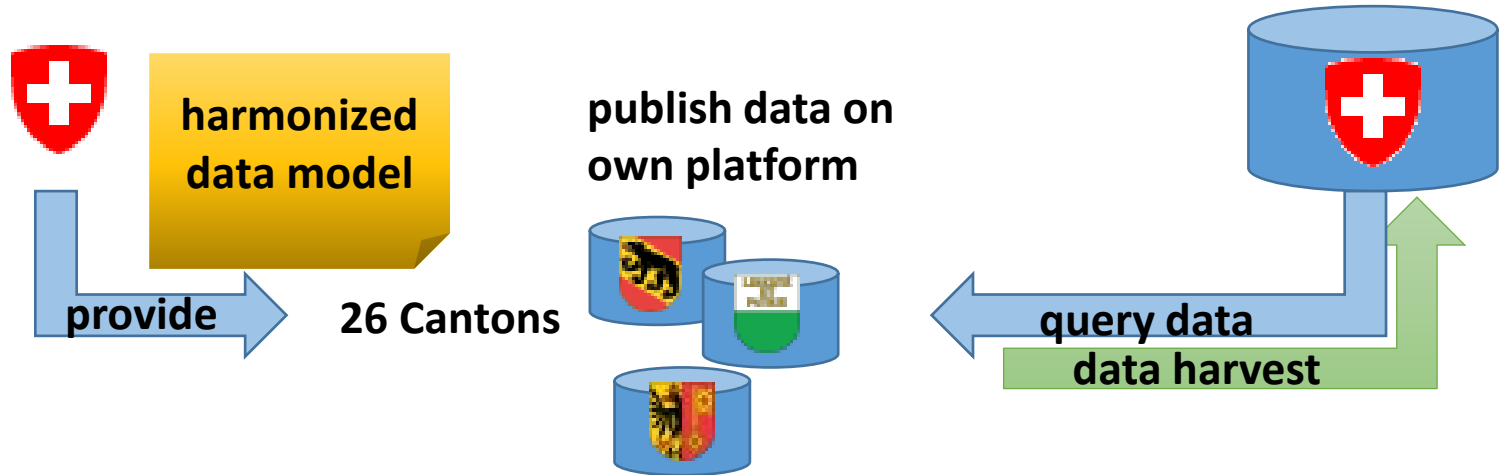
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How do we aggregate data?

- provide a harmonized data model and collect data accordingly





How can machines query our data?



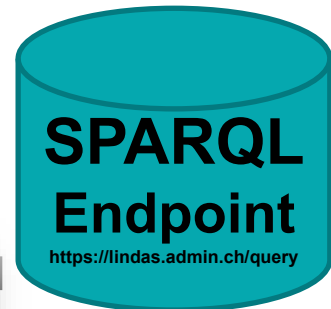
send

SPARQL query

```
https://lindas.admin.ch/query

1 SELECT DISTINCT (?dimension6 as ?sector) (?dimension2 AS ?year) (?dimension3 as ?value) WHERE {
2 <https://environment.ld.admin.ch/foen/ubd008502/4> <https://cube.link/observationSet> ?observationSet0 .
3 ?observationSet0 <https://cube.link/observation> ?source0 .
4 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/sektoId> ?dimension0 .
5 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/gas> ?dimension1 .
6 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/jahr> ?dimension2 .
7 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/werte> ?dimension3 .
8 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/hierarchie> ?dimension4 .
9 ?source0 <https://environment.ld.admin.ch/foen/ubd008502/werteNichtGerundet> ?dimension5 .
10 FILTER (
11 (?dimension1 = <https://ld.admin.ch/cube/dimension/testdimension/test1>)
12 )
```

query



return

query result

SECTOR	YEAR	VALUE
Forest land	1993	-5.15
Forest land	2008	-2.768
Forest land	1991	-5.162
Forest land	2012	-3.531
Forest land	1994	-3.98
Forest land	1999	-3.592
Forest land	2010	-3.529
Forest land	2000	4.438
Forest land	2001	-2.056
Forest land	1997	-4.657
Forest land	2019	-3.223
Forest land	2007	-1.664
Forest land	2018	-2.093
Forest land	2004	-3.069

```
1 {
2   "head": {
3     "vars": [
4       "sector",
5       "year",
6       "value"
7     ]
8   },
9   "results": {
10    "bindings": [
11     {
12       "year": {
13         "datatype": "http://www.w3.org/2001/XMLSchema#year",
14         "type": "literal",
15         "value": "1993"
16       },

```

result



Outlook ...

... towards international data harvesting

Steps to take

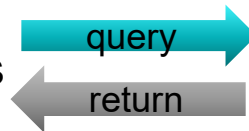
... initially

1. UNECE defines a harmonized data model & data format & QA

harmonized
data model

... per member state

2. MS publishes data according to the harmonized data model
3. UNECE connects data sources with automated harvesting process



Long term goals

- a) make data easily reusable for further publications (increase outreach)
 - b) lower the reporting burden while increasing frequency of data harvesting processes
-



Links

- RDF W3C [w3.org/RDF/](https://www.w3.org/RDF/)
 - SPARQL W3C [w3.org/TR/sparql11-query/](https://www.w3.org/TR/sparql11-query/)
 - LINDAS lindas.admin.ch
 - Linked Data Day lindas.admin.ch/events/linked-data-day-2023/
 - Visualize visualize.admin.ch
 - Visualize Tutorials youtube.com/@visualizetutorials
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