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DMP for the Experiment 'Observing the correlation between the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria' created with DMP Online.

A Data Management Plan created using DMPonline

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## **1. Data summary**

In this experiment, the question if the emissions of non-methane volatile organic compounds from transport in Austria have an influence on the yearly average temperature in Innsbruck will be treated. This is done by comparing the trends of transport emissions and average temperature, as well as obtaining the correlation between those two variables.

Dataset - Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria: This output contains the combined data from the average temperature and per year from Innsbruck and the EU pollution index for NMVOCs of Austria. Each row contains comma-separated values (year;avg yearly temperature;pollution indicator for NMVOCs). The temperature is measured in Celsius degrees. The pollution indicator shows the value of the EU pollution index for NMVOCs (based on year 200, where indicator=100).

The distribution Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria of the dataset is provided in the format csv and is 60000bytes large.

## **2.1 Making data findable, including provisions for metadata [FAIR data]**

The dataset Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria uses the following standard (referenced by URL) <http://www.dublincore.org/specifications/dublin-core/dcmi-terms/>.

The metadata is in English. The metadata Meta data is stored under /documentation/metadata.xml and contains the following information: Title of the experiment, Creator, Subject, A more detailed description of the experiment, Date when the experiment was executed, Type/purpose of the application, Format, Sources used, Language, Years covered by the experiment data, Rights for using the data / sourcecode (we provide free access here). As a standard for writing the meta data, the Dublin Core has been in use, since it is a basic, domain-agnostic standard which can be easily understood and implemented. The meta data as well as the description file is created by hand. The contact person of the project is Michael Benedikt Aigner. They can be reached on the mail [e01529096@student.tuwien.ac.at](mailto:e01529096@student.tuwien.ac.at). Their HTTP-ORCID is <https://orcid.org/0000-0002-4872-9154>. The data will be stored as a comma-separated values (.csv) file. The format is chosen since it is a non-proprietary, open format for storing data. Also, the resulting file size is smaller than for e.g. XML-files. Figure data will be stored as JPEG files, to make it easier to work with them on different systems and also save disc space. The data collected contains meta data attached in the described origin of the resources.

The dataset Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria can be identified using <https://doi.org/10.5281/zenodo.2648172>, which is an HTTP-DOI.

The dataset is in english. It can be found using the following keywords: "temperature in Innsbruck", "transport pollution emission indicator",

The selected repository (GitHub repository) provides versioning.

The host can be identified with <https://doi.org/10.5281/zenodo.2648176>. The DataManager(Michael Benedikt Aigner, [e01529096@student.tuwien.ac.at](mailto:e01529096@student.tuwien.ac.at)) is identified by 0000-0002-4872-9154(ORCID).

The ProjectLeader(Michael Benedikt Aigner, [e01529096@student.tuwien.ac.at](mailto:e01529096@student.tuwien.ac.at)) is identified by 0000-0002-4872-9154(ORCID).

The dmp is identified by <https://doi.org/10.5281/zenodo.2648182>.

## 2.2 Making data openly accessible [FAIR data]

The data will also be publically available in the GitHub repository for at least 5 years. Since the file sizes are small compared to other Data Science projects, no additional charges for the data repository are expected.

The dataset does not contain personal data.

The dataset does not contain sensitive data.

Data access control:

The chosen repository (GitHub) ensures a secure storing of the data by the following aspects: Two-factor Authentication (2FA) (SMS, TOTP), Git over Secure Shell (SSH) and HTTPS, GPG commit-signing verification, Security audit log. For versioning of the data, a connection over SSH is established beforehand to safely transfer the data. One can access the data through <https://zenodo.org/record/2648172#.XRorROgzZPY>. The data will be available as open data. The dataset will be available until 2024-04-21. One can download the data from <https://zenodo.org/record/2648172#.XRorROgzZPY>.

The dataset is licensed under <https://opensource.org/licenses/MIT> starting at 2019-04-21.

Dataset - Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria: This output contains the combined data from the average temperature and per year from Innsbruck and the EU pollution index for NMVOCs of Austria. Each row contains comma-separated values (year;avg yearly temperature;pollution indicator for NMVOCs). The temperature is measured in Celsius degrees. The pollution indicator shows the value of the EU pollution index for NMVOCs (based on year 200, where indicator=100).

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## 2.3 Making data interoperable [FAIR data]

The dataset Combined data of the yearly average temperature of Innsbruck and the pollution emissions of NMVOCs from transport in Austria uses the following standard (referenced by URL) <http://www.dublincore.org/specifications/dublin-core/dcmi-terms/>.

The data will be stored as a comma-separated values (.csv) file. The format is chosen since it is a non-proprietary, open format for storing data. Also, the resulting file size is smaller than for e.g. XML-files. Figure data will be stored as JPEG files, to make it easier to work with them on different systems and also save disc space. The data collected contains meta data attached in the described origin of the resources.

## 2.4 Increase data re-use (through clarifying licenses) [FAIR data]

The data will be stored as a comma-separated values (.csv) file. The format is chosen since it is a non-proprietary, open format for storing data. Also, the resulting file size is smaller than for e.g. XML-files. Figure data will be stored as JPEG files, to make it easier to work with them on different systems and also save disc space. The data collected contains meta data attached in the described origin of the resources.

The dataset is licensed under <https://opensource.org/licenses/MIT> starting at 2019-04-21.

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The chosen repository (GitHub) ensures a secure storing of the data by the following aspects: Two-factor Authentication (2FA) (SMS, TOTP), Git over Secure Shell (SSH) and HTTPS, GPG commit-signing verification, Security audit log. For versioning of the data, a connection over SSH is established beforehand to safely transfer the data. The dataset will be available until 2024-04-21.

## 3. Allocation of resources

The DataManager(Michael Benedikt Aigner, [e01529096@student.tuwien.ac.at](mailto:e01529096@student.tuwien.ac.at)) is identified by 0000-0002-4872-9154(ORCID).

The ProjectLeader(Michael Benedikt Aigner, [e01529096@student.tuwien.ac.at](mailto:e01529096@student.tuwien.ac.at)) is identified by 0000-0002-4872-9154(ORCID).

The data will also be publically available in the GitHub repository for at least 5 years. Since the file sizes are small compared to other Data Science projects, no additional charges for the data repository are expected.

#### **4. Data security**

The dataset does not contain personal data.

The dataset does not contain sensitive data.

Data access control:

The chosen repository (GitHub) ensures a secure storing of the data by the following aspects: Two-factor Authentication (2FA) (SMS, TOTP), Git over Secure Shell (SSH) and HTTPS, GPG commit-signing verification, Security audit log. For versioning of the data, a connection over SSH is established beforehand to safely transfer the data.

#### **5. Ethical aspects**

There are no ethical issues in the project to be considered. Because the data collected and created contains no information about certain individuals, just averaged temperature values and the emission from transport indicator without reference to any human contributors or institutions causing the emissions, the data does not need to be anonymized. Therefore also no security issues of transferring and storing the data publically are addressed here. Permissions for sharing and publishing the data are ensured since the data collected was published under the CC-BY licence..

#### **6. Other**