

12 November 2021

Launch of the National Air Pollution Monitor Database (NAPMD)

The Centre for Air pollution, energy and health Research (CAR) is proud to announce the launch today of the National Air Pollution Monitor Database (NAPMD), for research and non-commercial use.

It is with great excitement that the CARDAT data team can announce that Australia's first standardised National Air Pollution Monitor Database (NAPMD) is ready to be shared with researchers. The CAR NAPMD was derived from state and territory government departments monitor data from NSW DPIE, Vic EPA, Qld DES, SA EPA, WA DEWR, Tas EPA, NT EPA, and ACT Health. For more information see the database home webpage <https://dx.doi.org/10.17605/OSF.IO/JXD98>.

For access please contact the CARDAT team at car.data@sydney.edu.au.

What is it?

The NAPMD is a spatial database containing standardised quality assured government air pollution monitoring site data (hourly and daily observations) from across Australia, including the earliest measurements (going back as far as 1979) to the most recent published data from 2020. The database will be updated each year into the future funded by the NH&MRC CAR (<https://www.car-cre.org.au/>) and National ARDC Data Commons (<https://ardc.edu.au/project/air-health-data/>). The database was compiled by CAR's data scientists working hand in hand with state and territory government departments that operate the air pollution monitoring networks, and their help has been instrumental in obtaining and standardising the data, much of which was not readily available.

Why use it?

This is a fantastic resource for researchers wishing to map and model air pollution across the country and they can now obtain the data in a standardised format from one database location for the first time.

1. It contains all measurements made by state and territory agencies. These were curated from hundreds of files of differing formats and were combined with data from API streams.
2. The variables, units and time measurements have all been standardised both within and across states and territories so that researchers need not match variable names, convert units, or accommodate differing daylight savings time changes and hourly averaging protocols (e.g. hours beginning or ending at 0:00-23:00 or 1:00-24:00).
3. We have manually checked monitor locations latitude and longitude using satellite imagery.
4. Contextual metadata (such as conditions of use and licences) and tabular metadata (such as variable definitions) are available via the database home webpage and Wiki (see <https://dx.doi.org/10.17605/OSF.IO/JXD98>).
5. The single database location enabled us to build tools that impute missing values and calculate daily/monthly/yearly averages for modelling (see <https://github.com/cardat/cardatdbtools>).



How do we access it?

Access to the database will be granted to individual on request to the CARDAT team at car.data@sydney.edu.au. At this point it will only be made available for research and not-for-profit use.

Individuals with access will be able to connect to the database (via SQL editors or scripts) and download data as needed. There are how to guides and examples as well as metadata available on the NAPMD landing page <https://dx.doi.org/10.17605/OSF.IO/JXD98>.

Acknowledgements

The NAPMD could not have been achieved without the professional and timely assistance from all of the contributing agencies:

- NSW Department of Planning, Industry and Environment (DPIE)
- Vic Environmental Protection Authority
- ACT Health Department
- TAS Environment Protection Authority
- SA Environment Protection Authority
- WA Department of Water and Environmental Regulation
- Qld Department of Environment and Science
- NT Environment Protection Authority

About CAR

The Centre for Air pollution, energy and health Research (CAR) is a Centre of Research Excellence funded by the National Health and Medical Research Council (NHMRC). The centre brings together more than 30 researchers at the forefront of their fields, investigating the health impacts of air pollution and new forms of energy

