



NIES wind-tunnel dataset

1. IDENTIFICATION INFORMATION

Name	NIES wind-tunnel dataset
DOI	doi:10.20783/DIAS.283 [https://doi.org/10.20783/DIAS.283]
Metadata Identifier	NIES_wind_tunnel20230727074811-DIAS20221121113753-en

2. CONTACT

2.1 CONTACT on DATASET

Name	Ministry of Environment, Environment Management Bureau
Organization	Ministry of Environment, Environment Management Bureau

2.2 CONTACT on PROJECT

2.2.1 Data Integration and Analysis System

Name	DIAS Office
Organization	Japan Agency for Marine-Earth Science and Technology
Address	3173-25, Showa-Cho, Kanazawa-ku, Yokohama-shi, Kanagawa, 236-0001, Japan
E-mail	dias-office@diasjp.net

3. DOCUMENT AUTHOR

Name	Isao Kanda
Organization	Ministry of Environment

4. DATASET CREATOR

Name	Isao Kanda, Yukio Yamao
Organization	Ministry of Environment, Environment Management Bureau

5. DATE OF THIS DOCUMENT

2023-07-27

6. DATE OF DATASET

creation : 2016-03-23

7. DATASET OVERVIEW

7.1 Abstract

Impact on human health by automobile air pollutants in roadside areas was investigated in the SORA (Study On Respiratory disease and Automobile exhaust) project (H17-22fy) administered by the Japan Ministry of Environment. In this project, a model was developed for estimating air-pollutant exposure to roadside residents. To provide validation data for this model, diffusion experiments under various building configurations from regular arrays to real cities were conducted in the Atmospheric Diffusion Wind Tunnel at National Institute for Environmental Studies in Japan. This dataset includes the wind and concentration data obtained in the wind-tunnel experiments.

7.2 Topic Category(ISO19139)

climatologyMeteorologyAtmosphere

environment

7.3 Temporal Extent

Begin Date	2005-12-26
End Date	2007-06-18

7.4 Geographic Bounding Box

North latitude	bound	35.7
West longitude	bound	135.3
Eastbound longitude		139.7
South latitude	bound	34.7

7.5 Grid

7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
discipline	atmospheric diffusion, wind tunnel, urban roughness	No_Dictionary

7.7.2 Keywords on Project

7.7.2.1 Data Integration and Analysis System

Keyword Type	Keyword	Keyword thesaurus Name
theme	DIAS > Data Integration and Analysis System	No_Dictionary

7.8 Online Resource

File download : <https://data.diasjp.net/dl/storages/filelist/dataset:283>

7.9 Data Environmental Information

7.10 Distribution Information

name	version	specification
zip	N/A	

8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

[NONE]

10.2 Data Policy by the Project

10.2.1 Data Integration and Analysis System

If data provider does not have data policy, DIAS Terms of Service (<https://diasjp.net/en/terms/>) and DIAS Privacy Policy (<https://diasjp.net/en/privacy/>) apply.

If there is a conflict between DIAS Terms of Service and data provider's policy, the data provider's policy shall prevail.

11. LICENSE

12. DATA SOURCE ACKNOWLEDGEMENT

12.1 Acknowledge the Data Provider

12.2 Acknowledge the Project

12.2.1 Data Integration and Analysis System

If you plan to use this dataset for a conference presentation, paper, journal article, or report etc., please include acknowledgments referred to following examples. If the data provider describes examples of acknowledgments, include them as well.

” In this study, [Name of Dataset] provided by [Name of Data Provider] was utilized. This dataset was also collected and provided under the Data Integration and Analysis System (DIAS), which was developed and operated by a project supported by the Ministry of Education, Culture, Sports, Science and Technology. ”

13. REFERENCES

I. Kanda, Y. Yamao, K. Uehara, T. Ohara: A wind-tunnel study on diffusion from urban major roads, *Journal of Wind Engineering and Industrial Aerodynamics*, 99 (2011) 1227-1242

I. Kanda, Y. Yamao, T. Ohara, K. Uehara: An urban atmospheric diffusion model for traffic-related emission based on mass-conservation and advection-diffusion equations, *Environmental modeling and Assessment*, 18 (2013) 221 - 248

I. Kanda, T. Ohara, T. Nataami, H. Nitta, K. Tamura, S. Hasegawa, M. Shima, S. Nakai, K. Sakamoto, H. Yokota: Development of outdoor exposure model of traffic-related air pollution for epidemiologic research in Japan, *Journal of Exposure Science and Environmental Epidemiology*, 23 (2013) 487 - 497

I. Kanda, Y. Yamao, K. Uehara, T. Ohara: Development of a roadside atmospheric diffusion model MCAD, *Research Report from the National Institute for Environmental Studies, Japan, No.207 (2012)*, pp.143