Sound files for the measurements of physiological effects of wind turbine noise on sleep

SND-ID: snd1118-1. **Version**: 1.0. **DOI**: https://doi.org/10.5878/32pm-2z71

Download data

SND1118-001-V1.0.zip *(170.81 MB)*

Citation

Ögren, M. (2019) Sound files for the measurements of physiological effects of wind turbine noise on sleep (Version 1.0) [Data set]. University of Gothenburg. Available at: https://doi.org/10.5878/32pm-2z71

Creator/Principal investigator(s)

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Description

The material consists of sound files used as noise exposure during sleep trials in a laboratory environment. The trials aim was to look at physiological effects during sleep when exposed to wind turbine noise. The sound files are made available mainly for other researchers in the field wanting to replicate the results or use the files in similar studies. There may also be a wider interest for the public to listen to the exposures used in the study.

Purpose:

Develop audio files for use as exposure during sleep experiments in laboratories

The sound files correspond to indoor noise from a wind turbine in a typical Swedish house. The sound files were synthesized using parameters describing the variation in level in different frequency bands extracted from outdoor measurements. The sound files were filtered to get indoor sound using typical facade insulation both with window closed and with a small gap.

The sound recordings which the synthetizied files are based on were performed at four different buildings exposed to noise from four single wind turbines (i.e. not wind turbine parks).
The files are named as follows:

WTN_StrongAM_closed - Strong amplitude modulation (7 - 9 dB) with closed window
WTN_StrongAM_gap - Strong amplitude modulation (7 - 9 dB) with window ajar
WTN_WeakAM_closed - Weak amplitude modulation (1 - 2 dB) with closed window
WTN_WeakAM_gap - Weak amplitude modulation (1 - 2 dB) with window ajar

Data contains personal data

No

Language

English

Swedish

Unit of analysis

Other

Study design

Experimental study

Data format / data structure

Audio

Data collection 1

- Mode of collection: Simulation
- Time period(s) for data collection: 2014 – 2017
- Instrument: (Technical instrument(s))
- Source of the data: Physical objects

Geographic spread

Geographic location: Sweden

Geographic description: Southern Sweden

Responsible department/unit

Occupational and Environmental Medicine

Research area

Medical and health sciences (Standard för svensk indelning av forskningsämnen 2011)

Health sciences (Standard för svensk indelning av forskningsämnen 2011)

Occupational health and environmental health (Standard för svensk indelning av forskningsämnen 2011)

Keywords

Sleep, Noise, Wind energy

Publications

Thorsson, Pontus, et al. "Low-frequency outdoor–indoor noise level difference for wind turbine assessment." The Journal of the Acoustical Society of America 143.3 (2018): EL206-EL211. DOI:10.1121/1.5027018
DOI: https://doi.org/10.1121/1.5027018

Ageborg Morsing, Julia, et al. "Wind turbine noise and sleep: Pilot studies on the influence of noise characteristics." International journal of environmental research and public health 15.11 (2018): 2573. DOI:10.3390/ijerph15112573
DOI: https://doi.org/10.3390/ijerph15112573

Smith, Michael & Ögren, Mikael & Thorsson, Pontus & Hussain-Alkhateeb, Laith & Pedersen, Eja & Forssén, Jens & Ageborg Morsing, Julia & Persson Waye, Kerstin. (2020). A laboratory study on the effects of wind turbine noise on sleep: Results of the polysomnographic WiTNES study. Sleep. DOI:

10.1093/sleep/zsaa046
DOI: https://doi.org/10.1093/sleep/zsaa046

Thorsson, Pontus, et al. "Creating sound immission mimicking real-life characteristics from a single wind turbine." Applied Acoustics 143 (2019): 66-73. DOI:10.1016/j.apacoust.2018.08.015
DOI: https://doi.org/10.1016/j.apacoust.2018.08.015

Accessibility level

Access to data through SND
Data are freely accessible

Use of data

Things to consider when using data shared through SND

Versions

Version 1.0. 2019-09-04

Download metadata

DataCite
DDI 2.5
DDI 3.3
DCAT-AP-SE 2.0
JSON-LD
PDF
Citation (CLS)
File overview (CSV)

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