

Aircraft Noise Monitoring by DFLD / EANS

DFLD.de / EANS.net

The European Aircraft Noise Measurement System

Created by Horst Weise, presented by Martin Kessel

The Deutscher Fluglärmdienst e.V. (DFLD) EANS.net

is a registered NGO measuring aircraft noise and recording aircraft movements in

- **9** European countries and Canada on
- **56** airports / regions
- **770** noise measuring stations
170 of these stations are “public service stations” installed by cities and counties)
- **30** airspace surveillance and tracking systems
- **2** live track cameras

Build up since year 2002. Our values: data, since year 2002. Useful for prognosis retrospective comparisons.

All data are freely accessible on the internet at

www.DFLD.de (Deutscher Fluglärmdienst e.V.),

or at the European level at

www.EANS.net (European Aircraft Noise Services).

Worldwide, we can be reached via

www.WW-ANS.net (Worldwide Aircraft Noise Services)

Our home base is Frankfurt, the Rhine-Main agglomeration in Germany.

The Aircraft Noise Monitoring of the DFLD

We can't reduce noise but provide analysis and facts for the political discussion.

Our target is to make noise visible, transparent **visualisation of aircraft noise** and to offer the data to the public in **long-term archives**.

Detailed high-resolution noise curves, show users all noise events and are not only average of noise levels,

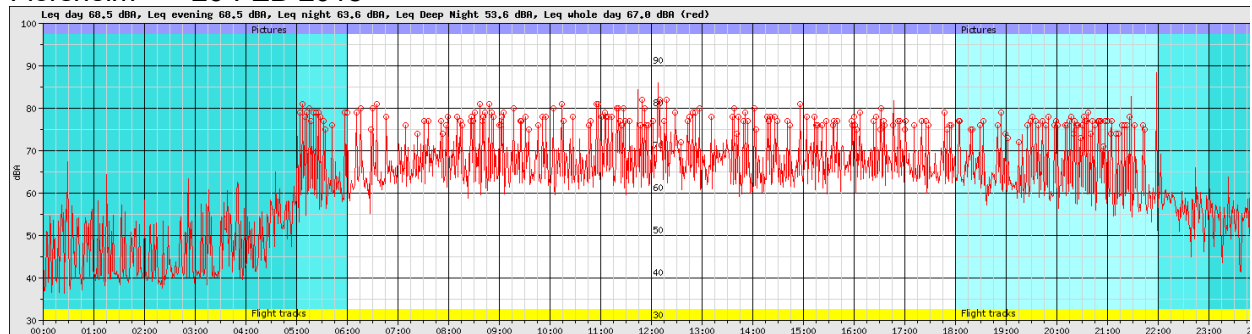
but the **impulsiveness** and **frequency** of noise events.

Noise Measurement and Noise Visualisation

The measured values are presented graphically as **raw measured values** instead of **long-term averaged average values**, to represent also the **impulsiveness** and **frequency** of the noise events.

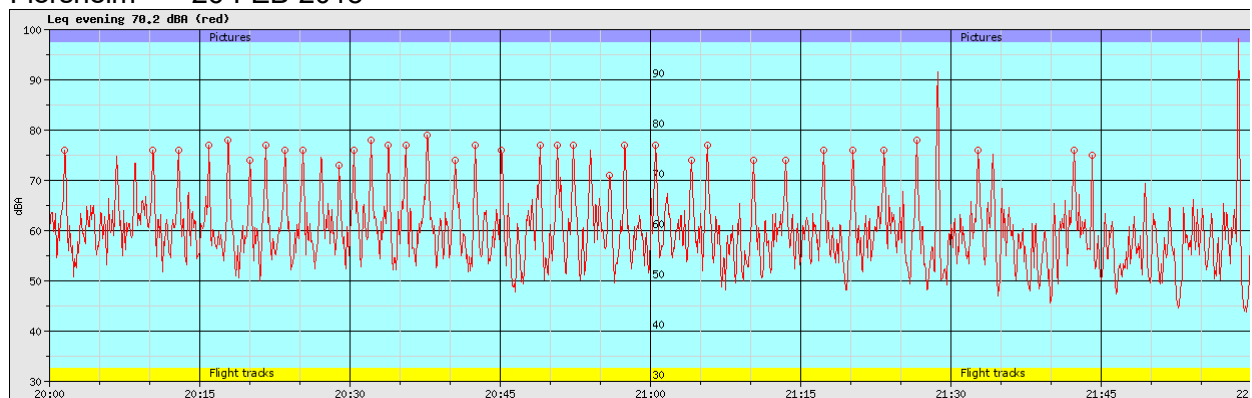
- **Full-day chart with averaging line (1 pixel = 1 minute) ([web link](#))**

Flörsheim ●● 26-FEB-2018

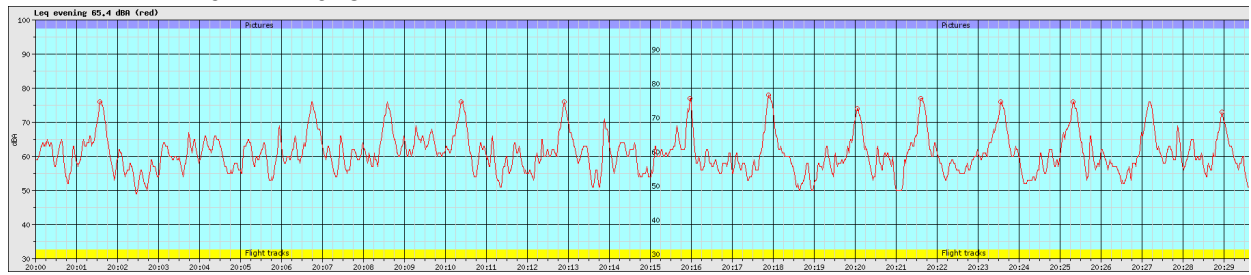


- **Zoom view over 2 hours (1 pixel = 6 seconds) ([web link](#))**

Flörsheim ●● 26-FEB-2018

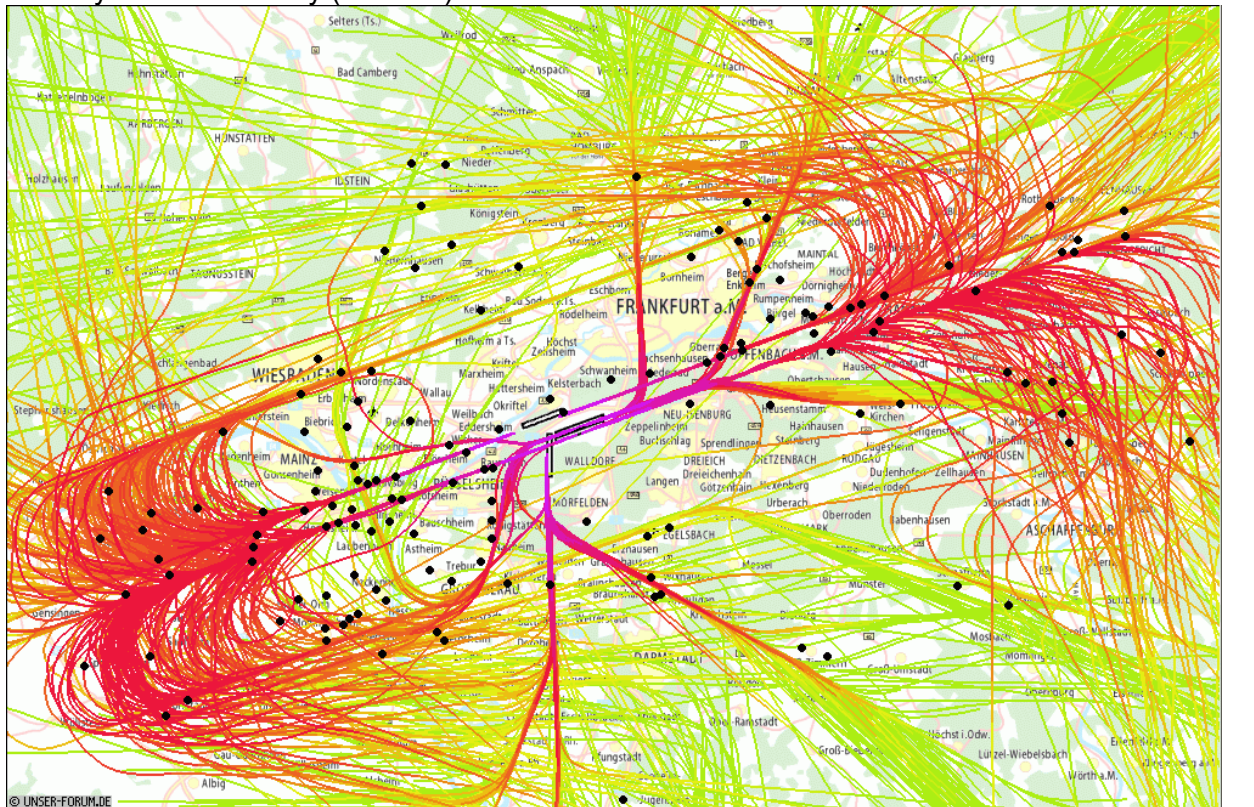


- **Zoom view over 30 minutes (1 pixel = 1 second according to DIN 45643) ([web link](#))**
Flörsheim ●●● 26-FEB-2018



Airspace Monitoring

- Full-day chart of one day ([web link](#))



Flight altitude over MSL [ft]:

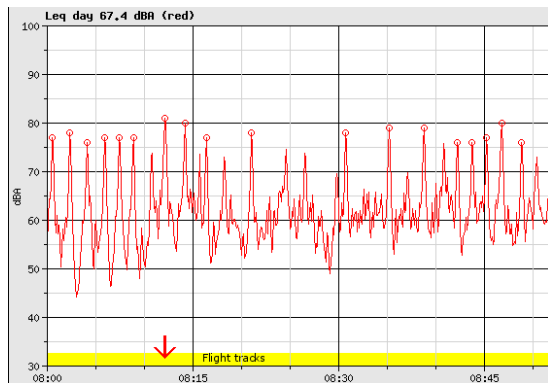


Flight tracks Frankfurt (11-JAN-2018)

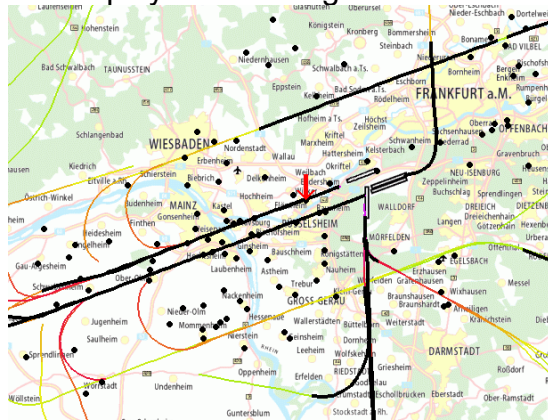
- Intelligent control elements isolate individual aircraft movements from others for additional information.

Linking aircraft noise to aircraft movements and vice versa

Starting from the noise curve, by clicking on the yellow beam (10:08:00 o'clock) under the peak, you get...



...a display of all the flight tracks at the selected time:



click on the black flight track (northern airstrip), and you get the detailed information about this flight...

Aircraft Information

Designator: A343
Call sign: DLH483
Squawk: DE3867
Registration: Deutsche Lufthansa (DE)
Model: A-340-300
Manufacturer: AIRBUS
Type/Wt Class: L4J/H

1. character: Aircraft type

A = Amphibian
G = Gyrocopter
H = Helicopter
L = Landplane
S = Seaplane
T = Tilt-wing aircraft

2. character: Number of engines

3. character: Engine type

E = Electric
J = Jet
P = Piston
T = Turboprop

4. character: Wake Turbulence Category (WTC)

H = Heavy: > 300.000 lb (> 136 tons)
M = Medium: 15.500 - 300.000 lb (7 - 136 tons)
L = Light: < 15.500 lb (< 7 tons)

External Links to pictures of the aircraft:

[Airliners.net](#) (Model)

[Airliners.net](#) (Designator)

If your query doesn't match you can try your own search.

Sometimes only a space or a hyphen is missing or too much:

[Airliners.net](#)

Track-Info

Date: 13.01.2018 (Saturday)

Details: Deutsche Lufthansa (DE) / A343 / DLH483

TPA ⇒ FRA = 7735 km

Show: [Altitude profile](#)

Show: [Emissions](#)

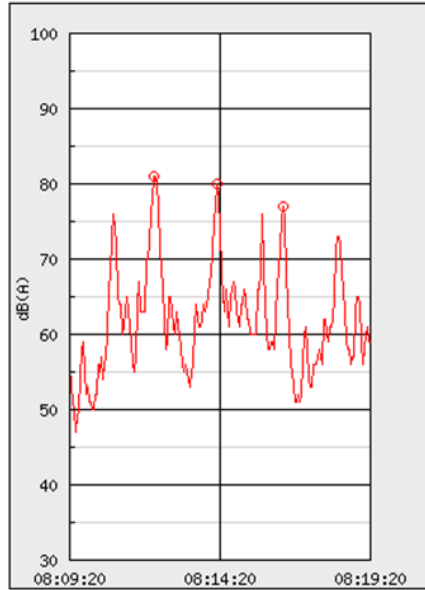
[Flight with GoogleEarth](#) [Help for GoogleEarth](#)

Select a Station:

< Flörsheim ... >

Monitoring point: Flörsheim ...

Distance: 0.0 km (horizontal), Altitude 414 m (MSL)



Airport Info

IATA-Code: TPA

ICAO-Code: KTPA

Airport: Tampa International Airport

Country: United States

Airport Info

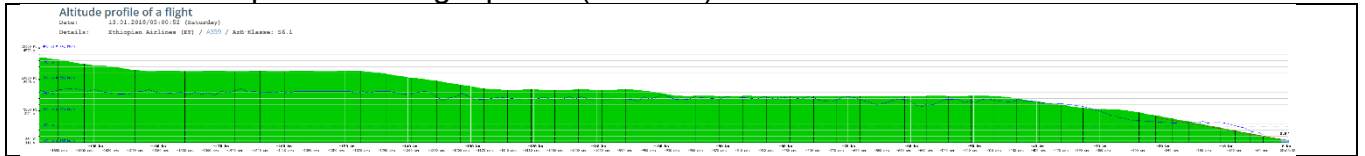
IATA-Code: TPA

ICAO-Code: KTPA

Airport: Tampa International Airport

Country: United States

...the combined speed and height profile ([web link](#))...



...and the air pollutants per LOT cycle of a plane

Emissions

Emission calculation for:

Flight: DLH483: 13.01.2018 / 08:00:44 - 08:15:08

Aircraft: A343

Engine: 4 x CFM56-5C4

	Fuel	CO ₂	GHG ^[3]	NO _x	HC	CO
Flight ^[1]	1,994 kg	6,201 kg	18,603 kg	24 kg	2 kg	14 kg
LTO-Cycle ^[2]	2,020 kg	6,279 kg	18,838 kg	35 kg	4 kg	25 kg

This flight period corresponds to going ... times round the world in a car:
[Globe perimeter = 40,075 km]

Euro5 ^[4] (Gasoline)	0.95 ^[5]	0.94 ^[5]	2.81 ^[5]	9.87	0.50	0.34
Euro5 ^[4] (Diesel)	1.20 ^[6]	1.17 ^[6]	3.50 ^[6]	3.29	1.00	0.69

^[1]: The data refers only to the part of the flight track which is shown!

The rest of the flight is not evaluated!

^[2]: LTO-Cycle (Landing-Takeoff-Cycle) describes the typical emissions of one arrival and one departure.

^[3]: GHG = Greenhouse Gases incl. CO₂

^[4]: See en.wikipedia.org/wiki/Euro4#Emission_standards_for_passenger_cars

^[5]: With a fuel consumption of 7 l/100km

^[6]: With a fuel consumption of 5 l/100km

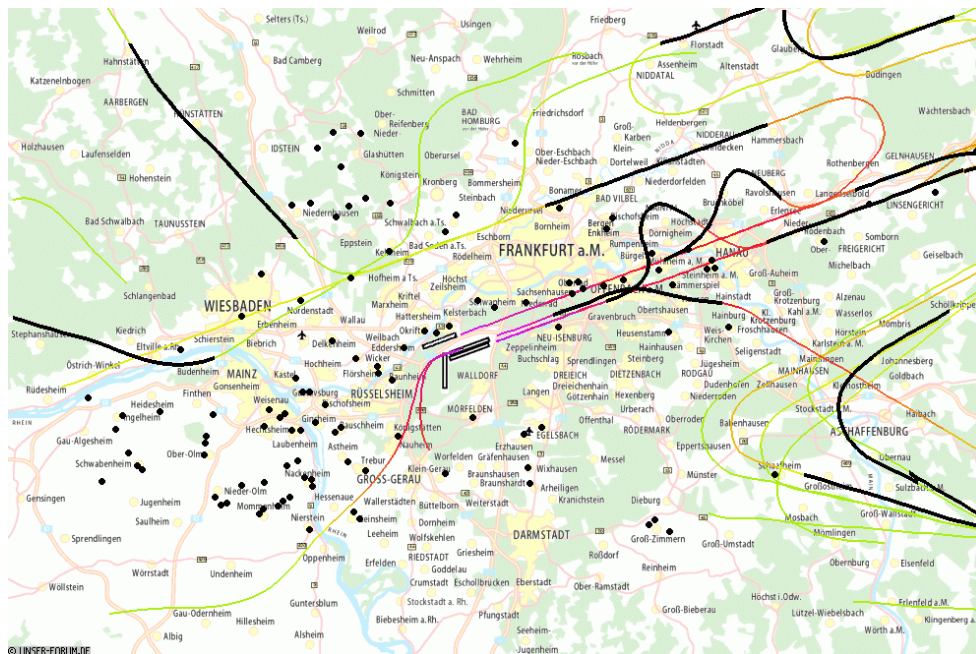
With welcome help from Bruno Brenier (Ensam Aix-en-Provence-France)

Flight tracks in GoogleMaps® and GoogleEarth® ([web link](#))

- show details for citizens

Further Information Services

- **Operation Direction Statistics**
Facts for the operation direction discussion and use of runways
- **Complaint System**
Convenient aircraft noise complaint system- easy to use.
More than 3 Mio complaints have been generated only in Frankfurt per year.
- **Air Pollutants**
Determination of air pollutants per flight, day, month, and year
- **Continuous Sound Level Statistics**
 - Daily, weekly, monthly, annual statistics
 - The six busiest months of the year
- **Airport Statistics**
 - Aircraft movements (daily, monthly, yearly)
 - Aircraft – Light, Medium, Heavy (daily, monthly, yearly)
 - Runway occupancy (daily, monthly, yearly)
 - Emissions (daily, monthly, yearly)
- **Flight Tracks Live**
- **Monitoring the Night Flight Ban**
Unfortunately, we cannot yet recognise this kind of aviation behaviour automatically:



Marked black 04:59 ± 90 sec

“Aerobatics” to avoid the nocturnal landing ban

- High-performance camera for monitoring the approach corridors.
- Recording of audio files of noise events, as well for railway noise
- Simultaneous measurement of dB_A and dB_C (Mainz / Lerchenberg)
- Complaint App (Android)

Perspectives

We like you to join us!

Investment into a qualified station and automatic collection of data is easy to realize.

We offer you to visualise noise at your airport and regions in the EANS system.

The benefits of aircraft noise monitoring and visualisation far exceed the daily presentation.

The published 24/365 published noise data make pressure in the public.

The airports and pilots get controlled by independent people – like you!

Globally, there is nobody else that has such comprehensive aircraft noise data base.

These data, verify now and later any change of the noise pollution.

Prospective calculations of noise are possible, for e.g. if flight track are changed or air traffic increases.

We would like to develop and expand our European network with groups and individuals.

Get a member of UECNA.eu

Support our activity with financial funding.

Thank you !

Martin Kessel

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