TRANSPORTATION THINK TANK

Davos in the Sky.

Private jet activity during the World Economic Forum annual meetings 2023-2025.

Imprint

T3 Transportation Think Tank gGmbH

Reinhardtstraße 31

10117 Berlin

https://t3-forschung.de

Authors:

Dr. Frederic Rudolph, Maxim Lucas Schaub, Dr. Nils Riach

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CONTENT

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Cover picture: Dominic-Bieri (unsplash)

1) INTRODUCTION AND METHODOLOGY

This report examines the number of private jet flights associated with the World Economic Forum (WEF) annual meetings in Davos, Switzerland from 2023 to 2025. Specifically, it provides

- Quantification of private jet movements at nearby airports during the event weeks,
- Analysis of the number of flights directly linked to the WEF annual meetings,
- Overview of the origins and destinations of these flights,
- Trends in flight numbers over the years.

The flight data is derived from transponder signals collected by the OpenSky Network and does therefore not specify the trip purpose. To estimate WEF-related flights, we compared flight activity during the respective WEF annual meeting week with the weeks immediately before and after, attributing the observed arrival and departure peaks to the event.

The events

Table 1 outlines the dates of the last three WEF annual meetings and specifies the analysis periods selected. For 2023 and 2024, we examined three weeks: the week before, during, and after each event. For 2025, we extended the analysis to cover the first six months of the year, providing a broader long-term perspective.

Table 1: Event dates and analysis periods

Year of meeting	Event dates	Period of analysis
2023	16 – 20 January	9 – 29 January
2024	15 – 19 January	8 – 28 January
2025	20 – 24 January	1 January – 30 June

Source: T3 compilation

The analysis is based on flight data for the following airports near Davos (Table 2). The list has been adopted from Faber & Raphaël (2022), who conducted a similar analysis for the WEF annual meeting in 2022.

Table 2: All airports in the vicinity of Davos that are known to be used during the WEF

Airport	ICAO Code	Country
Zurich Airport	LSZH	Switzerland
Geneva Airport	LSGG	Switzerland
Altenrhein Airport	LSZR	Switzerland
Dübendorf Airbase	LSMD	Switzerland
Samedan Airport	LSZS	Switzerland
Friedrichshafen Airport	EDNY	Germany
EuroAirport Swiss	LFSB	France

Source: Faber & Raphaël, 2022

Data base

The data on private jet movements near Davos during the WEF annual meetings is sourced from the OpenSky Network, a global network of over 7,000 volunteer-operated receivers. These receivers, primarily concentrated in Europe and the US, capture signals broadcast by aircraft transponders.

Each aircraft equipped with a transponder continuously transmits information. OpenSky's receivers capture these signals and send the data to a central database, where it is processed, archived, and made available for research and public use (Sun et al., 2025).

The aircraft and flight identities can be determined through the ICAO24 transponder code, flight ID, and national registration, as processed by the receivers. The flights detected by the OpenSky Network are also made available at Eurocontrol's website (Table 3, the first two lines are private jets). Eurocontrol is an organisation dedicated to achieving safe, seamless, and efficient air traffic management across Europe.

Table 3: Flight information provided by the OpenSky Network (excerpt for illustration)

ICAO24 code	Flight ID	Registration	Model	Typecode
4d02c2	JFA52N	LX-PCB	PC-24	PC24
4407c4	GAC829C	OE-FNP	Citation Mustang	C510
3ddc6b	CHX88	D-HDSL	MBB-BK 117 D-2 (H145)	EC45
393322	AFR49WR	F-GMZC	A321 111	A321

Source: Eurocontrol, 2025; in collaboration with OpenSky

The OpenSky network of volunteers assigns further information to the aircraft, amongst others the manufacturers, models, and corresponding models' typecodes, which are not transmitted by the aircraft transponders. OpenSky also records the times when each aircraft was first and last detected, along with their initial and final geographic coordinates. While these details offer approximate insights, they can help infer departure and destination airports.

We checked whether the initial or final recorded coordinates fell within a 20-kilometer radius of any of the seven designated airports, using the Haversine formula. If this was the case, we selected the flight.

We determined the countries of all flights' origins or destinations, using a cache of coordinates for countries. We first checked our cache in which we store the coordinates to two decimal places, and if there was no match, we checked the coordinates with OpenStreetMap (2025). The two decimal places achieve a maximum inaccuracy of 1.4 km, 0.7 km on average.

We identified private jets within the OpenSky dataset by referencing a curated list of private jet models. This list was developed by Faber & Raphaël (2022), and it is provided in the annex. The filtered list of flights we analysed is also provided in the annex.

CO_2 emissions calculation

The report calculates CO_2 emissions for five exemplary flights, using the Eurocontrol's Small Emitters Tool (SET; Eurocontrol, 2024). Other climate effects are not considered. The SET estimates the fuel burn and associated CO_2 emissions for an entire flight considering the characteristics of the air traffic covered by the EU emissions trading scheme. According to Eurocontrol, it accurately estimates associated CO_2 emissions for a list of flights characterised by aircraft type and flown distance, by using the averaging principle.

The flight distances are specified by calculating the spherical (great circle) distances between two airports (Haversine formula). We selected flights for which we estimated both the departure and arrival airport.

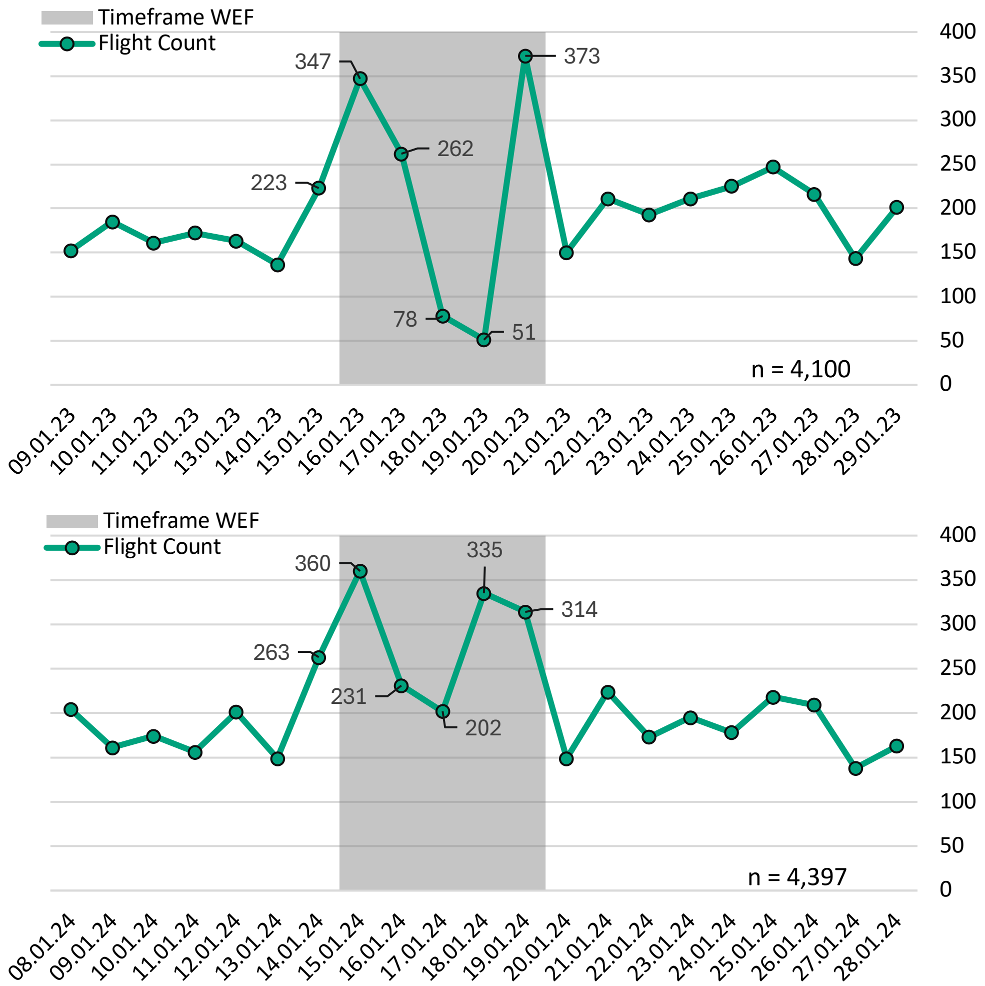
2) Results and Analysis

No. of flights which can be associated with the WEF annual meetings

The analysis of flight traffic at the seven airports near Davos reveals distinct peaks in activity. Although arrivals and departures of each aircraft at a given airport are tracked separately, the data reveals that most aircraft complete both an arrival and a departure on the same day.

Figures 1 and 2 below illustrate air traffic for the selected periods in 2023 and 2024, respectively. The green lines in the graphs represent the total number of arrivals and departures per day across the seven airports over the selected period. These lines correspond to the calendar week before the World Economic Forum annual meeting, the meeting week itself, and the week following—covering a total of 21 days. The five days of the WEF annual meeting are highlighted in grey.

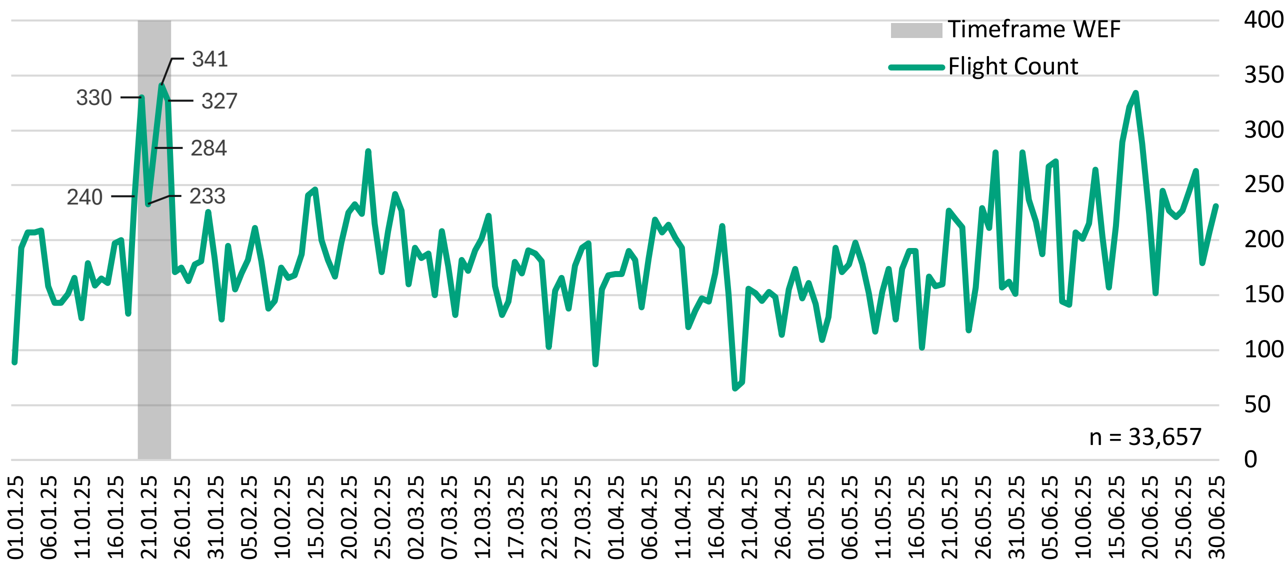
Figure 1: Private jet arrivals and departures at seven airports around Davos in 2023 [top]
Figure 2: 2024 [bottom]



Source: T3 analysis based on OpenSky

As explained in the methodology section, we selected a broader analysis period for the year 2025. This approach allows us to identify seasonal patterns while also determining the frequency of peak flight activity. In an earlier analysis we demonstrated that seasonal patterns in private jet flights are highly pronounced, with traffic peaks because of certain events (Rudolph et al., 2024). Figure 3 shows the time-series plot spanning the six months from January to June 2025. Again, the five days of the WEF annual meeting are highlighted in grey.

Figure 3: Private jet arrivals and departures at seven airports around Davos in 2025



Source: T3 analysis based on OpenSky

Interestingly, the years 2023, 2024, and 2025 each exhibit two distinct traffic peaks during the respective event (Figures 1-3), likely corresponding to arrivals for and departures from the events. In all three years, the day immediately before the start of the WEF annual meeting can be interpreted as a transition from regular flight activity to a distinct pattern resulting from the event in Davos. However, it is not only the arrival and departure periods that stand out; there is also a notable period between these phases. During this time, flight activity consistently decreases across all three years, likely because many participants remain in Davos for the entire duration of the conference. In 2023, the number of flights even falls below the typical levels observed in the weeks before and after, meaning that travel activity among conference attendees temporarily declines due to the event itself. Therefore, we attribute the observed arrival peaks, the observed declines during the meetings, and the observed departure peaks to the WEF annual meetings. This includes a total of six days per year: the day before the meeting begins and the five days of the meeting itself.

Figure 3 (year 2025) also shows some seasonal patterns. February is peak ski season in the Alps, especially around half-term. The graph also indicates a rising frequency of flights from mid-April to mid-June, as the summer season approaches. A notable peak can be observed on June 18, 2025, which coincides with the public holiday of Corpus Christi (Fronleichnam). These long-term data confirm that flight activities at the seven airports exhibit both seasonal patterns and are influenced by special events. The described six-day periods can clearly be attributed to the WEF annual meetings.

Table 4 (next page) depicts the six-day periods associated with the WEF annual meetings 2023-2025 (one day before and 5 days at the conference). It provides absolute numbers of private jet frequency during these periods, and the resulting mean daily traffic at these days. It also depicts the average air traffic on days outside the periods influenced by the WEF annual meetings (21-day period) and calculates the average difference between days affected and not affected by the meetings. Finally, it quantifies the resulting total number of flights that can be associated with the WEF annual meetings.

A notable trend in the table's data is the sharp increase in flights from 2023 to 2024. This surge is at least partially attributable to a strike by French air traffic controllers on 19 January 2023.

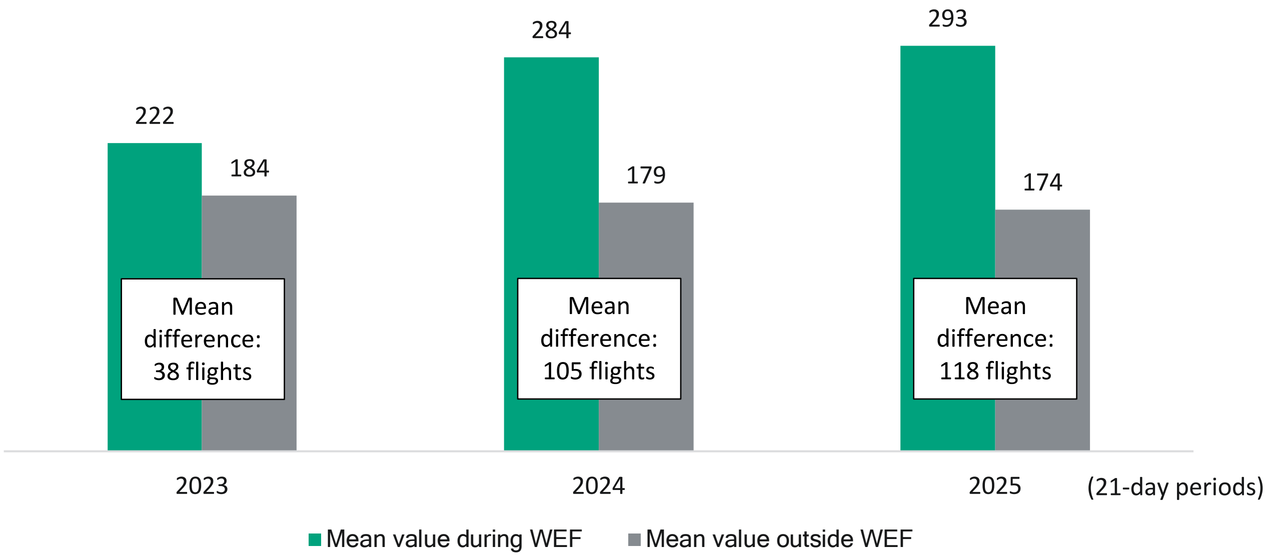
Table 4: Private jet activity at WEF annual meetings 2023-2025

Year	Total traffic during six-day period at WEF annual meeting [number of flights]	Daily mean	Mean daily traffic during non-WEF weeks	Mean difference	Total number of WEF-related flights
2023	1,334	222.3	184.4	37.9	227
2024	1,705	284.2	179.5	104.7	628
2025	1,755	292.5	174.4	118.1	709

Source: T3 analysis based on OpenSky

The difference between mean meeting frequencies and mean frequencies away from the meetings is illustrated graphically in Figure 4.

Figure 4: Comparison of mean daily private jet frequencies at days influenced and not influenced by the WEF



Source: T3 analysis based on OpenSky

This analysis encompasses all arrivals and departures across the seven airports. It is important to note that the number of passengers per aircraft is unknown, and a significant proportion of these flights may consist of empty legs. For example, a conference attendee traveling by private jet alone could generate four flights in total, with two of those operating without passengers. Conversely, some flights may have served as feeder services from larger airports, transporting multiple passengers simultaneously.

Furthermore, the number of flights we attribute to the World Economic Forum is subject to a degree of uncertainty. The standard deviation from the 21-day average—excluding the six-day frequencies—is 33.6 (2023), 27.3 (2024) and 25.2 (2025). This means the number of flights attributed to the WEF annual meetings could be higher or lower in this order, as we cannot determine what flight frequencies would have been had the meetings not taken place. However, such deviations tend to neutralise each other, as we witness six days per year which are influenced. It is more accurate to say that some flights to or from the World Economic Forum annual meetings are obscured within the general noise of air traffic activity. As a result, the actual total number of flights is likely higher than our calculations indicate.

Flight origins and destinations shift during and beyond the events

As the previous section shows, the number of flights to and from the selected airports increases significantly during the WEF annual meetings due to the travel days. This section discusses the development of distances travelled during these travel peaks[1]. As an event of global importance, the WEF meetings do not only incur more flights, but also more long-distance flights from and to other continents.

Table 5 compares the share of connected continents in all private jet flights during the arrival and departure phases (travel peaks) of the Davos meetings with the corresponding share in all other private jet flights of our database. During the travel peaks, 3.7 % of flights occur between the seven airports on our list. Some of these might be feeder or parking flights. Outside the peaks, 2.3 % occur between the seven airports.

Table 5: Continent shares of arrival/departure airports during the travel peaks and corresponding shares outside the arrival and departure peaks of the WEF annual meetings (flights in database, 2023-2025)

Continent	Peak share	Off-peak share
Europe	84.8 %	92.5 %
Asia	5.3 %	4.0 %
Africa	1.0 %	1.1 %
North America	8.7 %	2.2 %
South America	0.2 %	0.2 %
Oceania	0.0 %	0.0 %

Source: T3 analysis based on OpenSky

Table 5 shows more private jet travel to/from Asia and North America during the travel peaks. Conversely, the share of flights to or from Europe decreases. A similar pattern was proven in a report about private jet travel to and from the 2022 WEF annual meeting, using Cirium data. According to that analysis, the average distance travelled to and from these airports was 897 km in 2022. This was nearly half the average recorded during the WEF 2022 meeting, which stood at 1,646 km (Faber & Raphaël, 2022).

As noted in the introductory section of this report, we only identified the origin and destination countries, but not the respective airports. OpenSky receiver coverage tends to decrease outside of Europe; therefore, airports are not always identifiable when using OpenSky data and applying our method for deducing departure and arrival airports. Since the data often only allow for an approximate derivation of the departure and destination airports, this report refrains from calculating the average distances flown.

The map on the next page (Figure 5) shows the European countries from which private jets flew to one of the seven airports near Davos during the arrival periods for the World Economic Forum annual meetings in 2023, 2024, and 2025, as well as the destinations to which private jets flew during the departure periods. It shows the share of flights from/to the European countries, and the share from/to the other continents. The proportion of flights that took place between the seven airports (3.7 %) is not indicated on the map.

The share tends to increase with both increasing population numbers and increasing wealth of the respective countries. France, United Kingdom and Germany (in this order) are the three most connected countries. This pattern remains consistent even when the WEF annual meeting is not held.

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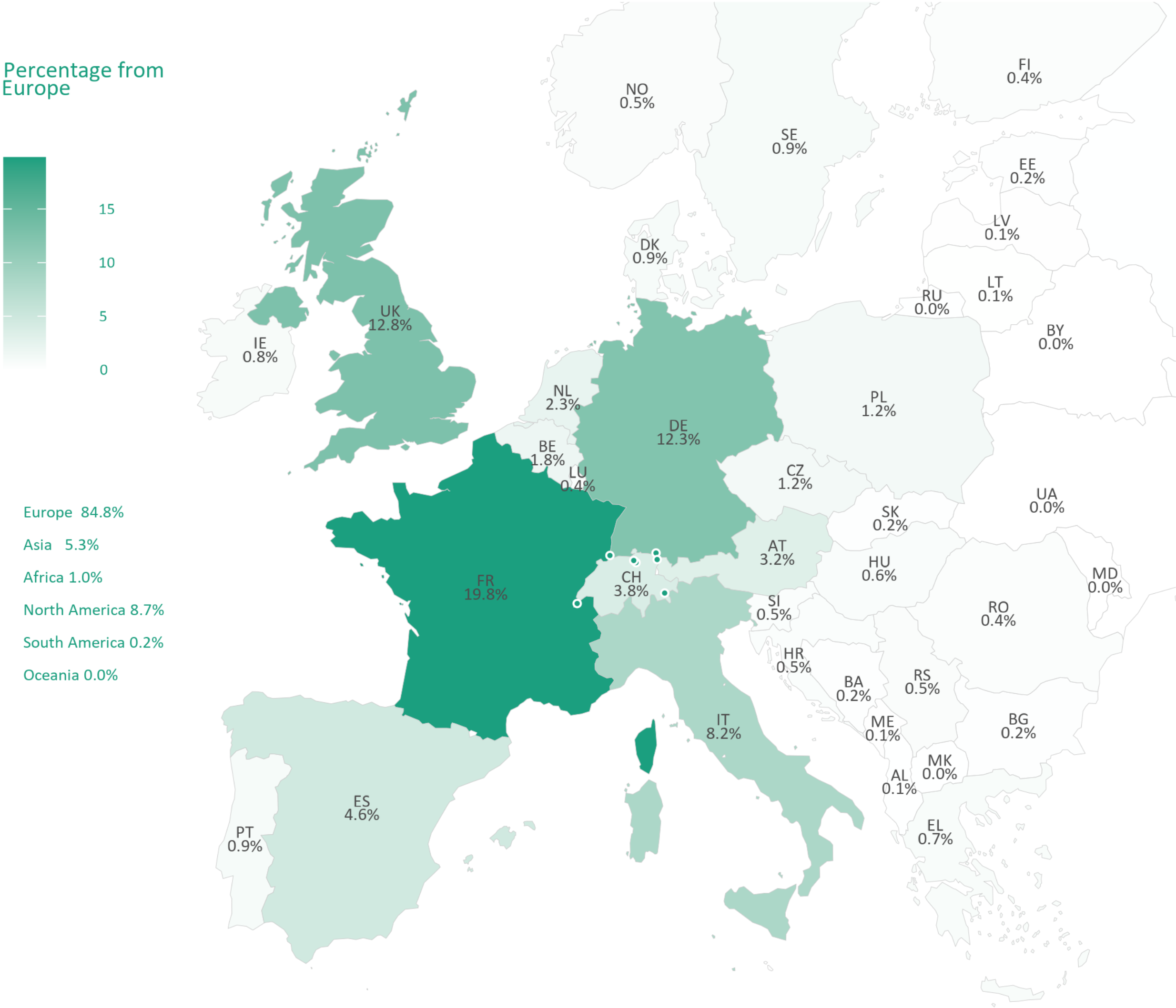
[1] Travel peaks are 15, 16, 17, 20 January 2023; 14, 15, 18, 19 January 2024; and 19, 20, 21, 22, 23, 24 January 2025, see Figures 1-3.

Figure 5: Origin and destination regions of private jet flights during WEF annual meetings 2023-2025



Source: T3 map, based on OpenSky data and OpenStreetMap material

To get a more nuanced understanding about the climate impact of private jets and their trips to and from Davos, Table 6 provides examples of trips and corresponding CO_2 emissions.

Table 6: Exemplary flights in our data base and corresponding CO_2 emissions (other climate effects excluded)

Model	Date	Departure	Arrival	Distance	CO_2
EMBRAER Legacy 650	23-01-09	Zurich LSZH	Paris Le Bourget, France LFPB	482 km	3.9 t
BOMBARDIER Challenger 605	23-01-11	Van Nuys, California/USA KVNY	EuroAirport Swiss LFSB	9,451 km	37.8 t
AIRBUS ACJ319 115X	24-01-18	Geneva LSGG	Riyadh, Saudi-Arabia OERK	4,298 km	42.6 t
DASSAULT Falcon 2000	24-01-19	Samedan LSZS	Milan Linate, Italy LIML	130 km	1.8 t
PILATUS PC-12	25-01-22	Cannes, France LFMD	Dübendorf Air Base LSMD	448 km	0.9 t

Source: T3 analysis based on OpenSky and Eurocontrol, 2024

The private jets listed in Table 6 are typically equipped with seven to ten seats but have usually only one or two passengers on board. The Airbus ACJ319 is an exception. The standard Airbus A319 is typically configured to accommodate 124 to 160 passengers, whereas the ACJ319 cabin typically accommodates 19 to 50 passengers in configurations that can include private suites, conference rooms, and dining areas.

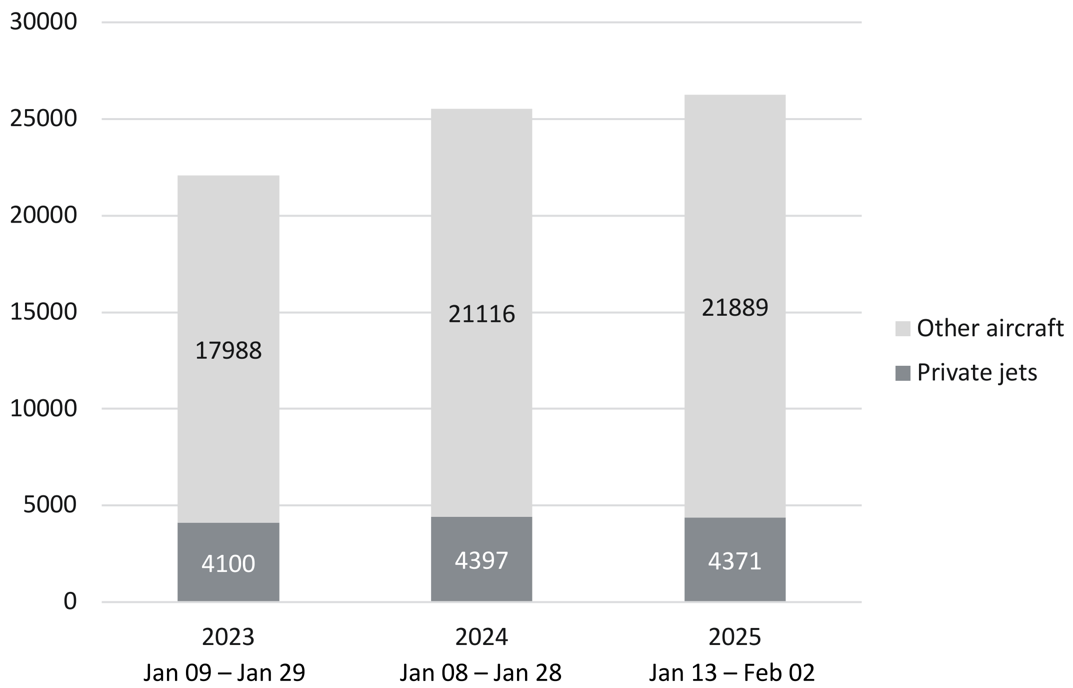
Table 6 also illustrates the efficiency discrepancy of private jets. A Pilatus PC-12 is known to be comparatively efficient. Nevertheless, using this aircraft still results in many times the climate impact compared to the CO_2 balance of other transportation means. A PC-12 easily exceeds the CO_2 emissions per kilometre of passenger cars by a factor of 20 (Buberger et al., 2022). Moreover, aviation's climate impact extends beyond CO_2 emissions alone. While data on the non-CO_2 effects of commercial flights exist, reliable figures for private jets remain insufficient, making accurate calculations currently unfeasible (Gössling et al., 2024).

Development over the years

The availability of OpenSky data on departures and arrivals at the seven airports also enables an analysis of developments between 2023 and 2025. Using OpenSky data, we were able to measure the sum of air traffic movements at Zurich Airport, Geneva Airport, Altenrhein Airport, Dübendorf Air Base, Samedan Airport, Friedrichshafen Airport, and EuroAirport Swiss, as depicted in Figure 6.

The bars for each of the three years cover the three-week periods analysed in the preceding chapters, that is, the week before, during and after the World Economic Forum annual meetings.

Figure 6: Arrivals and departures in vicinity of Davos, 21-day periods around WEF annual meetings 2023-25



Source: T3 analysis based on OpenSky

We counted 22,088 flights in 2023, 25,513 flights in 2024, and 26,260 flights in 2025. From 2023 to 2024, there was a marked 15.5 % increase in air traffic movements at the seven airports during the specified 21-day periods. Again, this increase is at least partially attributable to a strike by French air traffic controllers on 19 January 2023. From 2024 to 2025, the overall number of arrivals and departures rose by an additional 2.9 %.

3) Sources

Main data source: OpenSky Network

Bringing up OpenSky: A large-scale ADS-B sensor network for research
Matthias Schäfer, Martin Strohmeier, Vincent Lenders, Ivan Martinovic, Matthias Wilhelm
ACM/IEEE International Conference on Information Processing in Sensor Networks, April 2014

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Faber, J., Raphaël, S., 2022. CO_2 emissions from private flights to the World Economic Forum. CE Delft. https://www.greenpeace.org/static/planet4-international-stateless/2023/01/1f6a7653-ce-delft_co2-emissions-from-private-flights-to-the-world-economic-forum.pdf

Gössling, S., Humpe, A. & Leitão, J.C. Private aviation is making a growing contribution to climate change. Commun Earth Environ 5, 666 (2024). https://doi.org/10.1038/s43247-024-01775-z

OpenStreetMap, 2025. OSM was used to gather coordinates of origins and destinations of the flights provided by OpenSky, and as basis for our own maps. https://www.openstreetmap.org/copyright

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ANNEX

Data quality

By 2022, the OpenSky Network had already reached a high level of coverage in Switzerland and across Europe, with most new sensors added after that point primarily improving reception at lower altitudes in already well-covered regions. This trend continued through 2025, as the network's global coverage reached a saturation point in developed areas like Switzerland. Switzerland is one of the network's core regions, as the OpenSky Network is based there (Sun et al., 2025). Still, errors and omissions are possible, most notably:

- The network of volunteers may have assigned false model typecodes to the aircraft.
- It is unclear how far the aircraft was from its departure or arrival airport at the time it was first or last observed. While the network of receivers is dense in Switzerland, this is not the case worldwide. As a result, our method of assigning flights to airports may contain some inaccuracies.

Aircraft models included in the analysis

Please note that the list of private jets below includes aircraft that may be used for purposes other than business travel, such as police patrols. We selected the flights based on aircraft models.

Table 7: List of aircraft models defined as private jets

Aircraft model	Typecode
Airbus ACJ318	A318
Airbus ACJ319	A319
Airbus ACJ320	A320
Boeing 737NG BBJ	B737, B738
Bombardier-Challenger 300 (CL30)	CL30
Bombardier-Challenger 350 (CL35)	CL35
Bombardier-Challenger 600/601/604/605/650 (CL60)	CL60
Bombardier-Challenger 800/850 (CRJ2)	CRJ2
Bombardier-Global 5000 / 5500 (GL5T)	GL5T
Bombardier-Global 7000 / 7500 (GL7T)	GL7T
Bombardier-Global Express/6000/6500 (GLEX)	GLEX, GL6T
Cessna 208 Caravan (C208)	C208
Cessna-560 Encore / 5 / Ultra (C560)	C560
Cessna-Citation / 1 (C500)	C500
Cessna-Citation 1SP (C501)	C501
Cessna-Citation 3 / 6 / 7 (C650)	C650
Cessna-Citation CJ1 / CitationJet / 525 (C525)	C525
Cessna-Citation CJ2 (C25A)	C25A
Cessna-Citation CJ3 (C25B)	C25B
Cessna-Citation CJ4 (C25C)	C25C
Cessna-Citation Excel / XLS (C56X)	C56X
Cessna-Citation II / 2 / S2 (C550)	C550
Cessna-Citation Latitude (C68A)	C68A
Cessna-Citation Mustang (C510)	C510
Cessna-Citation Sovereign (C680)	C680
Cessna-Citation X / 10 (C750)	C750
Cessna-Conquest 1 (C425)	C425
Cirrus-SF-50 Vision (SF50)	SF50
Dassault-Falcon 10 / 100 (FA10)	FA10
Dassault-Falcon 20 /200 (FA20)	FA20
Dassault-Falcon 2000 (F2TH)	F2TH
Dassault-Falcon 50 (FA50)	FA50
Dassault-Falcon 7X (FA7X)	FA7X
Dassault-Falcon 8X (FA8X)	FA8X
Dassault-Falcon 900 (F900)	F900
Eclipse-Eclipse 500 (EA50)	EA50
Embraer-ERJ-190 / Lineage 1000 (E190) (manual search for Lineage 1000 in data set)	E190
Embraer-Legacy 450 / Praetor 500 (E545)	E545
Embraer-Legacy 500 / Praetor 600 (E550)	E550
Embraer-Legacy 600 / 650 (E35L)	E35L
Embraer-Phenom 100 (E50P)	E50P
Embraer-Phenom 300 (E55P)	E55P
Gulfstream G300/350/400/450 (GLF4)	GLF4, G450
Gulfstream-G100 / Astra (ASTR)	ASTR
Gulfstream-G150 (G150)	G150
Gulfstream-G200 / Galaxy (GALX)	GALX
Gulfstream-G280 (G280)	G280
Gulfstream-G600/650 (GLF6)	GLF6, G650

Gulfstream-GV/500/550 (GLF5)	GLF5, G550
Hawker Beechjet 400/400A /Nextant (BE40)	BE40
Hawker-4000 / Horizon (HA4T)	HA4T
Hawker-Hawker 700/750/800/850/900 (H25B)	H25B
Hawker-Premier 1 / Hawker 200 (PRM1)	PRM1
HondaJet (HDJT)	HDJT
King Air 200 (BE20)	BE20
King Air 300 (BE30)	BE30
King Air 350 (B350)	B350
King Air 90 (BE9L)	BE9L
Learjet 31 (LJ31)	LJ31
Learjet 35/36 (LJ35)	LJ35
Learjet 40 (LJ40)	LJ40
Learjet 45 (LJ45)	LJ45
Learjet 55 (LJ55)	LJ55
Learjet 60 (LJ60)	LJ60
Learjet 75 (LJ75)	LJ75
Piaggio-P-180 Avanti (P180)	P180
Pilatus PC-12 (PC12)	PC12
Pilatus PC-24 (PC24)	PC24
Piper PA-42-1000 Cheyenne 400LS	PAY4
PIPER PA-46-500TP Malibu Meridian (P46T)	P46T
Piper-Cheyenne 2 (PAY2)	PAY2
Piper-Malibu Meridian (PA46)	PA46
QUEST-Kodiak (KODI)	KODI
Socata-TBM-700 (TBM7)	TBM7
Socata-TBM-850 (TBM8)	TBM8
Socata-TBM-900 (TBM9)	TBM9

Source: T3 compilation based on Faber & Raphaël, 2022

Filtered list of flights

As explained in the methodology section, a filter was used to determine the list of relevant flights. The filter applied arrival or departure dates as specified in Table 1; at seven airports as specified in Table 2; and it applied the list of specific aircraft models from Table 7. The final list contains 42,159 flights.

https://t3-forschung.de/wp-content/uploads/2026/01/PrivateJetsWEF_dataset.xlsx