



Network Manager
nominated by
the European Commission



Monthly Network Operations Report

Analysis – July 2018



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NOTICE

Incomplete traffic data – 3 April

NM operational data archive for 3 April is incomplete due to NM system outage (See note i)

Traffic and Delay Comparisons

All traffic and delay comparisons are between report month and equivalent month of previous year, unless otherwise stated.

Graphics















All graphs in chapters 2, 3 and 4 are in average minutes of ATFM delay per day, unless otherwise stated.

NM Area

All figures presented in this report are for the geographical area that is within Network Manager's responsibility (NM area). For further information on the NM Area go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>.

Regulation Reason Groupings

The table below shows the colour coding used in the report charts.

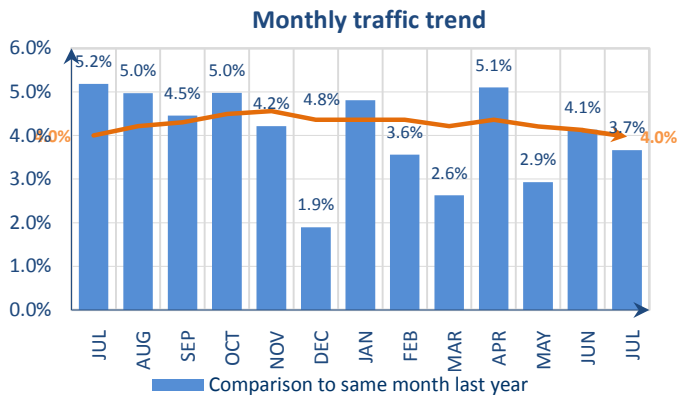
	EN-ROUTE CAPACITY (ATC)		AIRPORT CAPACITY (ATC)
	EN-ROUTE STAFFING (ATC)		AIRPORT STAFFING (ATC)
	EN-ROUTE DISRUPTIONS (ATC)		AIRPORT DISRUPTIONS (ATC)
	EN-ROUTE CAPACITY		AIRPORT CAPACITY
	EN-ROUTE DISRUPTIONS		AIRPORT DISRUPTIONS
	EN-ROUTE EVENTS		AIRPORT EVENTS
	EN-ROUTE WEATHER		AIRPORT WEATHER

For further information on the regulation reason groupings, go to the Reporting Assumptions and Descriptions document available on the EUROCONTROL website at <http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>.

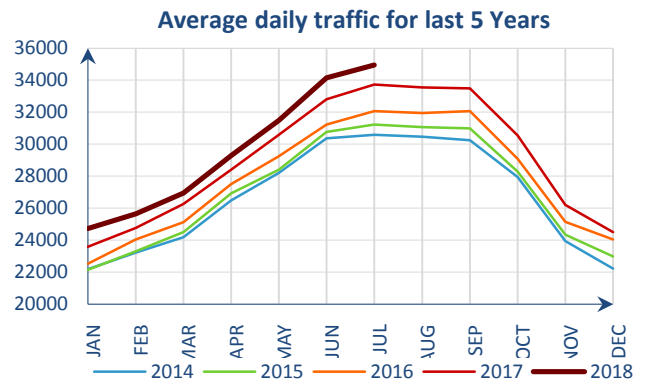
ATFM Statistics dashboard

More detailed information available via the new [ATFM Statistics dashboard](#).

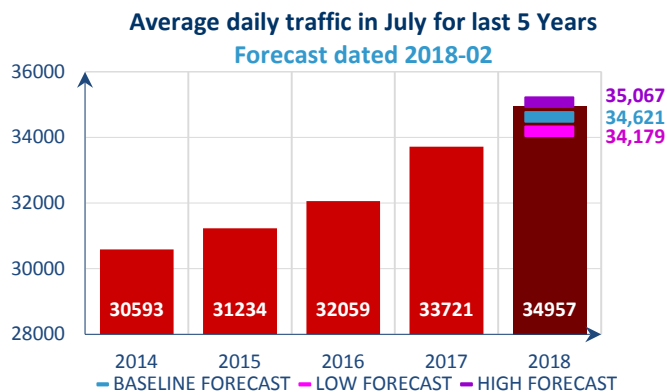
1. TOTAL TRAFFIC



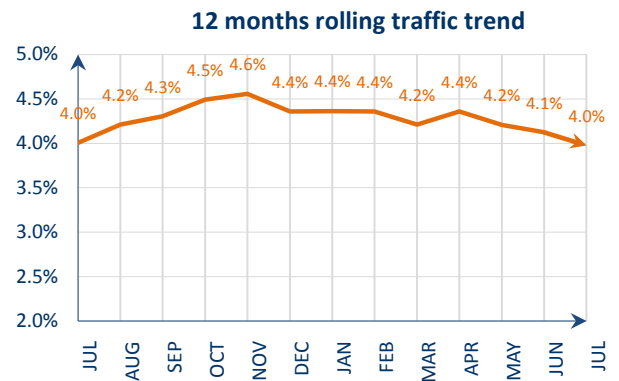
Traffic increased by 3.7% in July 2018ⁱⁱ.



Average daily traffic in July 2018 was the highest ever recorded for July.



The traffic increase of 3.7% for July was in line with the high forecast published in February 2018.



This graph shows the variation in average daily traffic for the last 12-month period relative to the previous 12-months. The average daily traffic from August 2017 to July 2018 was 4.0% higher than the average from August 2016 to July 2017.

Nine states added more than 50 flights per day to the European localⁱⁱⁱ traffic growth. Germany was the strongest contributor with 228 extra daily flights owing to its flows from and to the South-East (Turkey, Greece, Egypt) as well as its flows from and to Spain (+40 flights/day). Greece was second, adding 215 daily flights due to a dynamic internal flow (+41 flights/day) but also due to its flows from/to Germany (+38 flights/day), amongst others. Turkey was the third contributor with 198 extra daily flights owing to its flows from/to Germany (+50 flights/day), its flows from/to Russian Federation (46 flights/day) and its flows from/to UK (26 flights/day). Poland added 161 flights per day mainly thanks to its flows from and to Turkey (+20 flights/day) and its flows from and to Greece (+17 flights/day). Spain added 113 flights per day, far below the level of June (Spain was adding 187 flights per day) due to fewer flights from/to UK (-50 flights per day). Italy added 86 flights per day. France added 75 flights. Ukraine and Finland completed the list, adding respectively 68 and 57 flights per day. At the other end of the scale, the United Kingdom continues to record less traffic than a year ago and recorded 20 fewer flights and saw reduction on its flows from and to Spain, France, Canaries, Portugal as well as its internal flow.

The low-cost segment recorded an increase of 1.2% in July, stable on June's growth. Since the beginning of this year, the charter segment continued to have the fastest growth and recorded a 15.5% increase. The traditional scheduled segment posted an increase of 5.1%. The all-cargo segment declined by 3.7%. Business aviation market segment recorded an increase of 1.7%.

The aircraft operators which added the most flights to the network on a daily basis in July 2018 were easyJet UK (+175 flights/day), Wizz Air (+100 flights/day), Lufthansa (+77 flights/day), Binter Canarias (+74 flights) and Ryanair (+68 flights/day). Eurowings is excluded from this ranking as the comparison with last year is distorted by the earlier integration of Air Berlin flights.

The top five external partners (for average daily flights on flows in both directions) were the Russian Federation with 1,288 flights (12%), outpacing the United States with 1,162 flights (-1.6%) for the second month in a row, the United Arab Emirates with 368 flights (+11.5%), Egypt with 270 flights (+30%) and Canada with 248 flights.

For more information on EUROCONTROL Statistics and Forecasts, go to <http://www.eurocontrol.int/statfor/sid>

Eight of the top ten airports had positive traffic growth. Overall, the largest traffic increases in July 2018 were at Antalya, Helsinki, Athens, Budapest and Tel Aviv/Ben Gurion airports. The largest traffic decreases were at Birmingham, Hamburg, Milano/Linate, Ankara and Düsseldorf airports. Traffic recovery in Turkey explained the traffic variation at Antalya airport. The Tel Aviv/Ben Gurion traffic increase was due to the expansion of routes made available by low-cost airlines and increased tourism. Athens traffic increase is mainly attributed to the expanded route network from summer 2018. Traffic decreases at Düsseldorf and Hamburg airports are due in part to Air Berlin cessation of operations. Birmingham airport traffic variation is partially due to the Monarch cessation of operations.

Eight of the top ten aircraft operators flew more compared to July 2017. The operators with the highest traffic growth were Eurowings, Condor, Wizz Air, Air Europa and Qatar airlines. The highest traffic decreases were recorded by Flybe, Royal Air Maroc, Transavia.com, Aegean and Alitalia airlines.

The traffic variation of Eurowings follows the continued integration of Germanwings, some Lufthansa routes and more recently ex Air Berlin operated routes into the Eurowings operation. Condor airline has also recuperated routes from Air Berlin cessation of operations and particularly long haul to the Caribbean.

N°	ADEP	ADEP NAME	201807	%	N°	ICAO	AIR OPERATOR	201807	%
1	EHAM	AMSTERDAMSCHIPHOL	753	-1.8%	1	RYR	RYANAIR	2292	3.1%
2	EDDF	FRANKFURT MAIN	752	7.3%	2	EZY	EASYJET	1644	11.9%
3	LFPG	PARIS CH DE GAULLE	733	2.9%	3	DLH	DEUTSCHE LUFTHANSA	1542	5.3%
4	EGLL	LONDON/HEATHROW	677	0.1%	4	THY	TURKISH AIRLINES	1507	1.9%
5	LTBA	ISTANBUL-ATATURK	670	-1.7%	5	AFR	AIR FRANCE	937	1.2%
6	LEMD	ADOLFO SUAREZ MADRID-BARAJA	598	5.7%	6	SAS	SCANDINAVIAN AIRLINES SYSTEM	777	-1.3%
7	EDDM	MUENCHEN	596	1.4%	7	BAW	BRITISH AIRWAYS	753	3.4%
8	LEBL	BARCELONA/EL PRAT	526	1.5%	8	EWG	EUROWINGS AG	745	95.6%
9	LIRF	ROMA/FIUMICINO	483	2.9%	9	KLM	KLM ROYAL DUTCH AIRL	709	-0.2%
10	LEPA	PALMA DE MALLORCA	481	2.9%	10	VLG	VUELING AIRLINES SA	699	6.0%
11	EGKK	LONDON/GATWICK	450	-0.7%	11	WZZ	WIZZ AIR	605	19.7%
12	LTAI	ANTALYA	434	20.0%	12	AZA	ALITALIA	589	-1.7%
13	LSZH	ZURICH	405	3.3%	13	PGT	PEGASUS HAVA TASI	530	5.7%
14	LGAV	ATHINA/MELEFTERIOS VENIZELOS	392	12.1%	14	BEE	JERSEY EUROPEAN TIA FLYBE	432	-7.8%
15	LOWW	WIEN SCHWECHAT	382	5.6%	15	SWR	SWISS INTERNATIONAL	431	5.5%
16	EKCH	KOBENHAVN/KASTRUP	381	2.7%	16	AUA	AUSTRIAN AIRLINES	416	2.5%
17	EIDW	DUBLIN	362	4.6%	17	TAP	TAP/AIR PORTUGAL	400	5.9%
18	EBBR	BRUSSELS NATIONAL	354	0.6%	18	LOT	LOT-POLISH AIRLINES	368	19.5%
19	LFPO	PARIS ORLY	350	0.8%	19	NAX	NORWEGIAN AIR SHUTTLE	354	7.9%
20	ENGM	OSLO/GARDERMOEN	345	4.7%	20	FIN	FINNAIR OY	340	15.1%
21	LTFJ	ISTANBUL/SABIHA GOKCEN	343	5.9%	21	AFL	AEROFLOT-RUSSIAN	338	13.9%
22	EDDL	DUESSELDORF	328	-3.5%	22	EXS	JET2.COM	324	19.4%
23	LPPT	LISBOA	328	3.3%	23	IBK	NORWEGIAN AIR INTERNATIONAL	313	7.3%
24	EGCC	MANCHESTER	321	-2.2%	24	WIF	WIDEROE	303	1.5%
25	ESSA	STOCKHOLM-ARLANDA	313	-2.9%	25	AEA	AIR EUROPA	293	19.7%
26	EGSS	LONDON/STANSTED	309	7.1%	26	IBE	IBERIA	275	4.2%
27	LIMC	MILANO MALPENSA	301	7.0%	27	BEL	BRUSSELS AIRLINES	252	4.9%
28	EPWA	CHOPINA W WARSZAWIE	288	9.7%	28	TOM	THOMSON FLY LTD	249	2.6%
29	LFMN	NICE-COTE D'AZUR	274	-1.2%	29	EIN	AER LINGUS TEORANTA	244	2.7%
30	EDDT	BERLIN-TEGEL	273	0.8%	30	QTR	QATAR AIRWAYS COMP.	244	19.7%
31	LLBG	TEL AVIV/BEN GURION	264	11.4%	31	VOE	VOLOTEA	241	16.1%
32	EFHK	HELSINKI-VANTAA	260	12.5%	32	ANE	AIR NOSTRUM	239	0.9%
33	LSGG	GENEVA	252	-2.2%	33	RAM	ROYAL AIR MAROC	229	-6.5%
34	LKPR	PRAHA RUZYNE	245	5.4%	34	OAL	OLYMPIC	224	2.1%
35	LEMG	MALAGA/COSTA DEL SOL	243	-1.6%	35	HOP	HOP (MERGE OF BZH + RAE + RLA)	217	6.9%
36	EDDH	HAMBURG	217	-4.8%	36	UAE	EMIRATES	205	5.4%
37	EDDK	KOELN-BONN	217	1.5%	37	TRA	TRANSVIA.COM	203	-4.1%
38	EGGW	LONDON/LUTON	210	-0.7%	38	SXS	SUNEXPRESS AIRLINES	202	8.1%
39	EGPH	EDINBURGH	202	1.7%	39	AUI	UKRAINE INTERNATIONAL	195	9.5%
40	LEIB	IBIZA	199	-2.4%	40	TYS	TRAVEL SERVIS	193	15.1%
41	EDDS	STUTTGART	194	7.0%	41	AEE	AEGEAN AIRLINES	190	-2.6%
42	LROP	BUCURESTI/HENRI COANDA	193	7.7%	42	CFG	CONDOR FLUGDIENST	187	23.6%
43	LHBP	BUDAPEST LISZT FERENC INT.	179	11.7%	43	NJE	NETJETS	182	4.5%
44	LIML	MILANO LINATE	174	-4.6%	44	TCX	THOMAS COOK AIT LTD	171	8.9%
45	EGBB	BIRMINGHAM	173	-12.0%	45	DAL	DELTA AIR LINES INC.	170	-0.4%
46	LFLL	LYON SAINT-EXUPERY	170	1.9%	46	BTI	AIR BALTIC CORPORAT.	169	10.6%
47	LEAL	ALICANTE	169	-2.0%	47	BCS	EUROPEAN AIR TRANSP.	168	9.4%
48	GCLP	GRAN CANARIA	167	0.0%	48	JAF	TUI AIRLINE BELGIUM	160	14.0%
49	LTAC	ANKARA-ESENBOGA	166	-4.6%	49	EZS	EASY JET SWITZERLAND	156	2.2%
50	LIPZ	VENEZIA TESSERA	163	4.4%	50	UAL	UNITED AIRLINES INC.	154	-1.2%
TOTALS and % TOTAL TRAFFIC			17259	55.7%	TOTALS and % TOTAL TRAFFIC			22760	65.1%

Top 50 Departure Airports with average daily traffic and percentage compared to same period of previous year

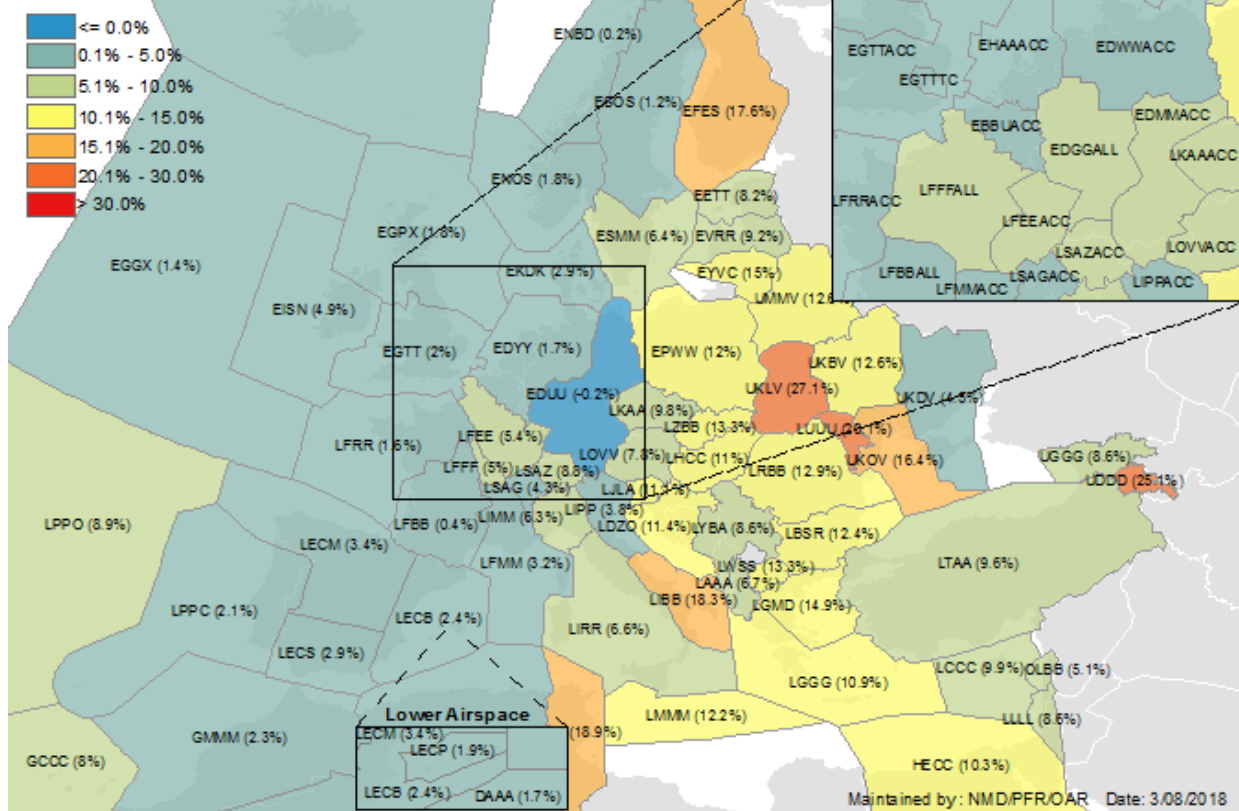
Top 50 Air Operators with average daily traffic and percentage compared to same period of previous year

N°	ICAO	AIR OPERATOR	201807	%
		Unidentified	2424	-0.6%

Average daily traffic and percentage compared to same period of previous year for all flights where Air Operators can't be identified

EN-ROUTE TRAFFIC GROWTH

Percentage change in traffic during July 2018 compared to the same month last year

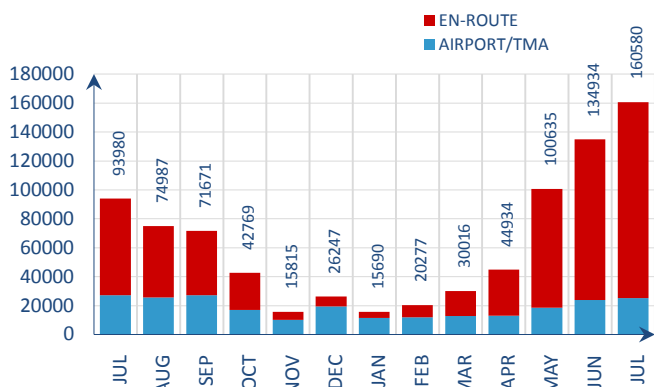


Nº	ASP ID	ASP NAME	201807	%	Nº	ASP ID	ASP NAME	201807	%
1	BIRDACC	REYKJAVIK ACC	498	0.2%	39	LFBALL	BORDEAUX ALL ACC	3326	0.5%
2	DAAAACC	ALGERS ACC	536	1.7%	40	LFEACC	REIMS U/ACC	3443	5.4%
3	DITACC	TUNIS ACC	408	19.0%	41	LFFFALL	PARIS ALL ACC	3920	5.0%
4	EBBUACC	BRUSSELS CANAC	2019	3.8%	42	LFMMACC	MARSEILLE ACC	4136	3.2%
5	EDGGALL	LANGEN ACC_FIR	4115	7.2%	43	LFMMAPP	MARSEILLE TMA	1171	-0.5%
6	EDMMACC	MUNCHEN ACC	3657	6.6%	44	LFRRACC	BREST U/ACC	3720	1.6%
7	EDUUUACC	KARLSRUHE UAC	5865	-0.2%	45	LGGGACC	ATHINAI CONTROL	2481	10.9%
8	EDWWACC	BREMEN ACC	2044	2.8%	46	LGMACC	MAKEDONIA CONTROL	2021	14.9%
9	EDYYUACC	MAASTRICHT UAC	5781	1.7%	47	LHCCACC	BUDAPEST ACC	3212	11.0%
10	EETTACC	TALLIN ACC	728	8.2%	48	LIBBACC	BRINDISI ACC	1377	18.3%
11	EFESACC	TAMPERE ACC	480	17.7%	49	LIMMACC	MILANO ACC	3067	6.3%
12	EGGXOCA	SHANWICK OACC	1623	1.4%	50	LIPPACC	PADOVA ACC	2584	3.8%
13	EGPXALL	SCOTTISH ACC	3234	1.8%	51	LIRRACC	ROMA ACC	3217	6.6%
14	EGTTACC	LONDON ACC	6701	2.0%	52	LJLAACC	LJUBLJANA ACC	1311	11.1%
15	EGTTTC	LONDON TMA TC	4461	3.1%	53	LKAAACC	PRAGUE ACC	2871	9.8%
16	EHAAACC	AMSTERDAM ACC(245-)	1803	0.6%	54	LLLLACC	TEL AVIV ACC	655	8.6%
17	EDIWACC	DUBLIN ACC	804	5.1%	55	LMMMACC	MALTA ACC	395	12.2%
18	EISNACC	SHANNON ACC	1523	4.9%	56	LOVVACC	WIEN ACC	3191	7.8%
19	EKDKACC	COPENHAGEN ACC	1734	2.9%	57	LPCCACC	LISBOA ACC/UAC	1789	2.1%
20	ENBDACC	BODO ACC	576	0.2%	58	LPOOACC	SANTA MARIA OACC	503	8.9%
21	ENOSACC	OSLO ATCC	1044	1.8%	59	LQSBACC	BOSNIA-HERZEGOVINA	181	9.0%
22	ENSVACC	STAVANGER ATCC	651	-0.3%	60	LRBBACC	BUCURESTI ACC	2653	12.9%
23	EPWWACC	WARSAWA ACC	2846	12.0%	61	LSAGACC	GENEVA ACC	2243	4.3%
24	ESMMACC	MALMO ACC	1743	6.4%	62	LSAZACC	ZURICH ACC	2766	8.8%
25	ESOSACC	STOCKHOLM ACC	1102	1.2%	63	LTAACC	ANKARA ACC	4850	9.6%
26	EVRRACC	RIGA ACC	938	9.2%	64	LTBBACC	ISTANBUL ACC	2334	3.0%
27	EYVACC	VILNIUS ACC	851	15.0%	65	LUUVACC	CHISINAU ACC	215	20.1%
28	GCCACC	CANARIAS ACC/FIC	959	8.0%	66	LWSSACC	SKOPJE ACC	835	13.3%
29	GMMMACC	CASABLANCA ACC	1203	2.3%	67	LYBAACC	BEOGRADE ACC	2732	8.6%
30	HECCACC	CAIROACC	685	10.3%	68	LZBBACC	BRATISLAVA ACC	2131	13.3%
31	LAAAACC	TIRANA ACC	847	6.7%	69	OLBBACC	BEIRUT ACC	207	5.1%
32	LBSRACC	SOFIA ACC	3138	12.4%	70	UDDACC	YEREVAN ACC	209	25.2%
33	LCCCACC	NICOSIA ACC	1311	9.9%	71	UGGGACC	TBILISI ACC	482	8.6%
34	LDZOACC	ZAGREB ACC	2449	11.4%	72	UKBVACC	KIEV ACC	590	12.6%
35	LECBACC	BARCELONA ACC	3408	2.4%	73	UKDVACC	DNIPROPETROVSK ACC	69	4.6%
36	LECMALL	MADRID ALL ACC	3504	3.4%	74	UKLVACC	L'VIV ACC	512	27.1%
37	LECPACC	PALMA ACC	1539	1.9%	75	UKOVACC	ODESSA ACC	404	16.4%
38	LECSACC	SEVILLA ACC	1296	2.9%	76	UMMVACC	MINSK ACC	1008	12.6%

The highest relative traffic increases in July 2018 were in L'viv, Yerevan, Chisinau, Tunis, Brindisi and Tampere ACCs. There is a double digit growth from Central to South-East Europe. Traffic increase in Ukraine is partially due to an increase of overflights from/to Turkey. The traffic increase in Turkish airspace is due to domestic and Russian flights recovery. The 4 ACCs project has successfully redistributed traffic out of Karlsruhe UAC, which explains the traffic variation.

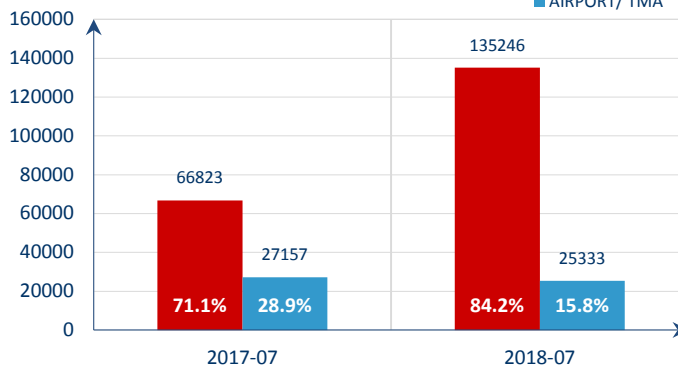
2. ATFM DELAY AND ATTRIBUTIONS

Average daily ATFM delays



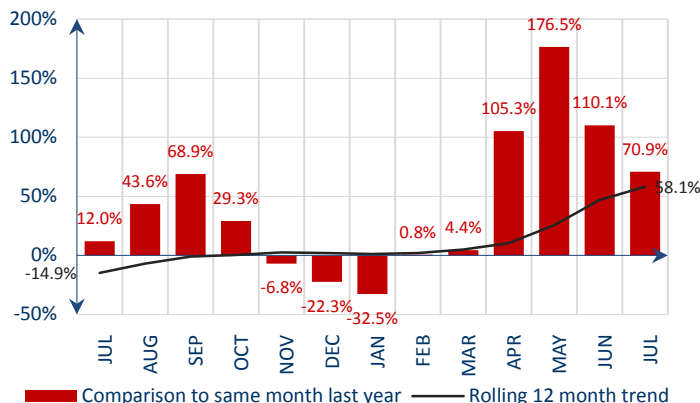
Total ATFM delays increased by 70.9% in July 2018ⁱⁱ.

Average daily ATFM delays



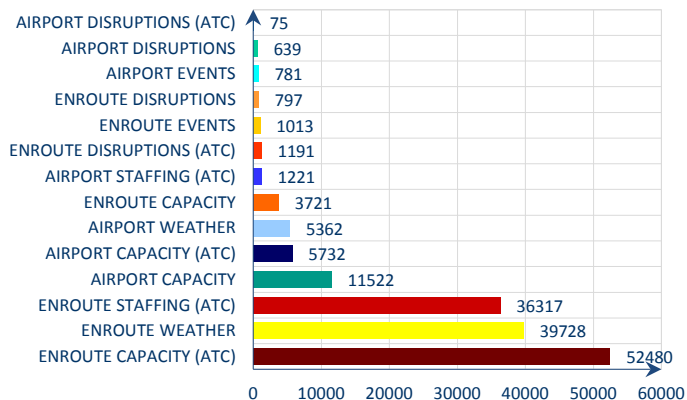
En-route ATFM delays increased by 102.4% and airport ATFM delays decreased by 6.7%.

Monthly ATFM delays trend



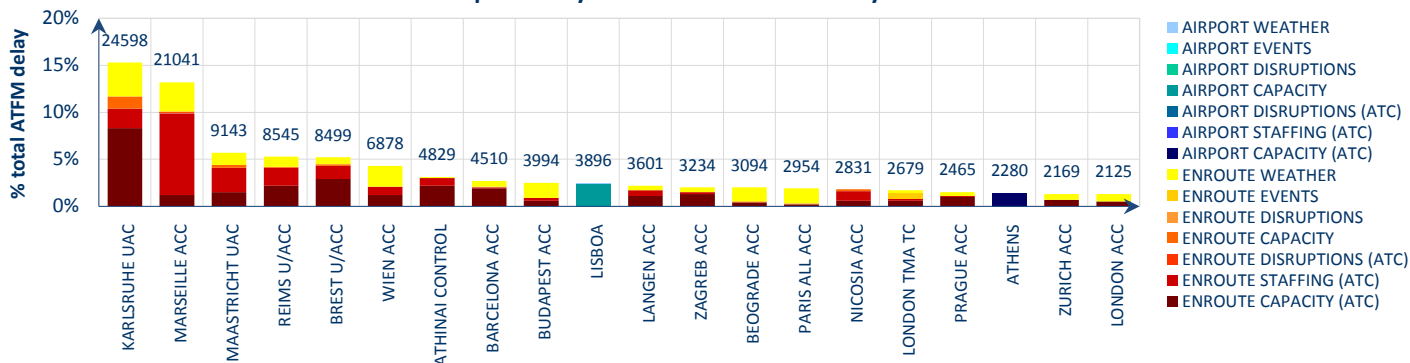
The rolling 12-month trend shows that ATFM delay was 58.1% higher during the period August 2017 – July 2018 compared to August 2016 – July 2017.

Reasons for ATFM delays in July 2018



En-route ATC capacity (32.7%), en-route weather (24.7%) and en-route ATC staffing (22.6%) were the main causes of ATFM delays in July 2018.

Top 20 delay reference locations in July 2018

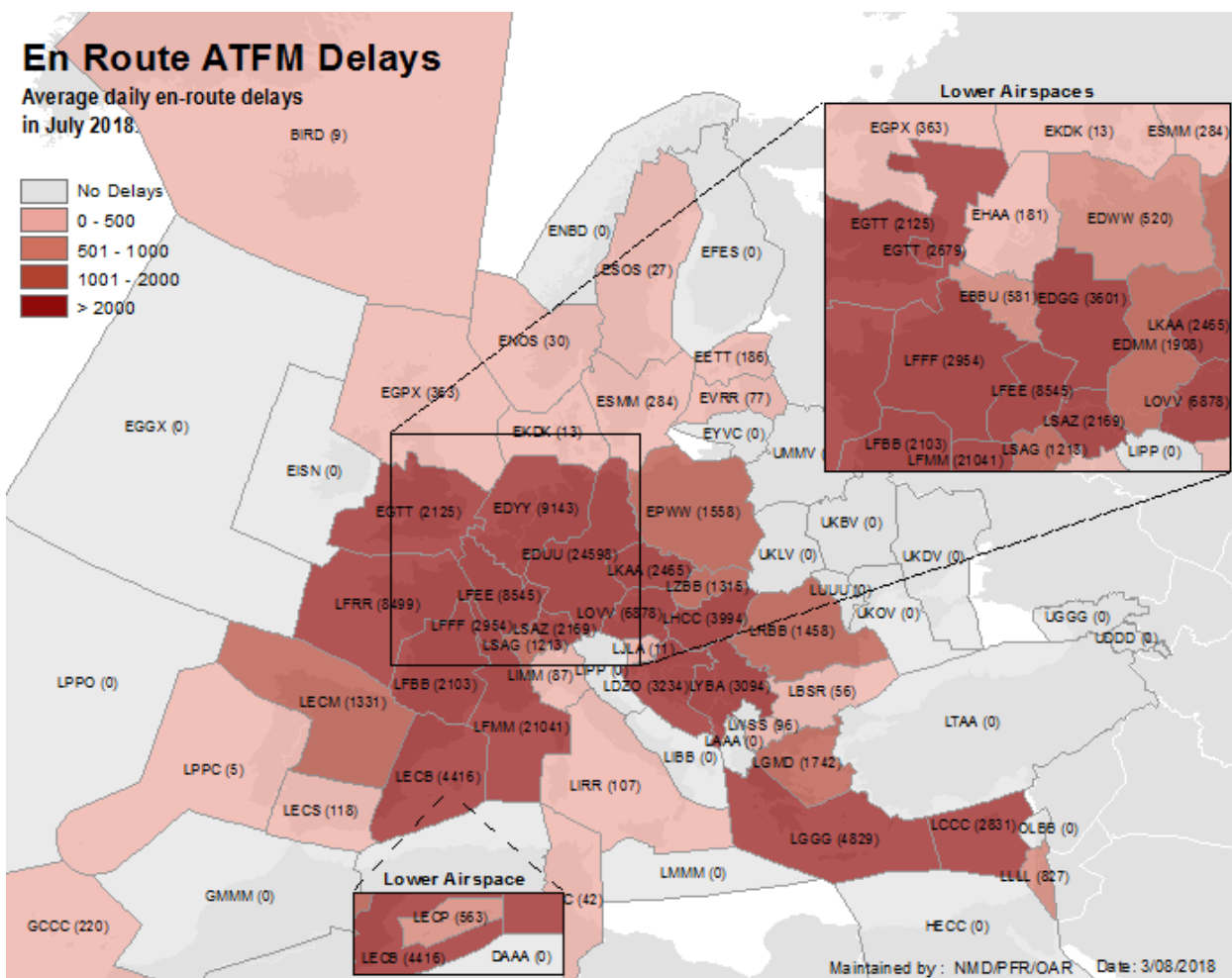


These are the top 20 delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

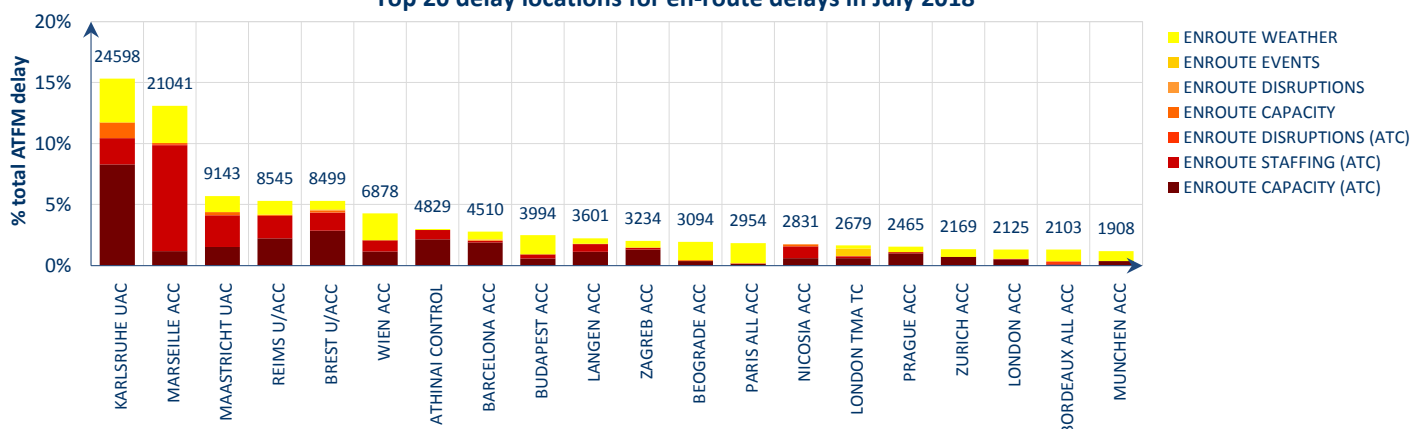
- High en-route capacity delays in Karlsruhe UAC, and to a lesser extent in Brest, Reims, Athens and Barcelona ACCs;
- En-route weather issues in Karlsruhe, Marseille, Vienna, Paris, Budapest and Beograd ACCs;
- High en-route staffing delays in Marseille ACC, and to a lesser extent in Maastricht, Karlsruhe, Reims and Brest ACCs.

3. EN-ROUTE ATFM DELAYS

EN-ROUTE ATFM DELAY PER LOCATION



Top 20 delay locations for en-route delays in July 2018



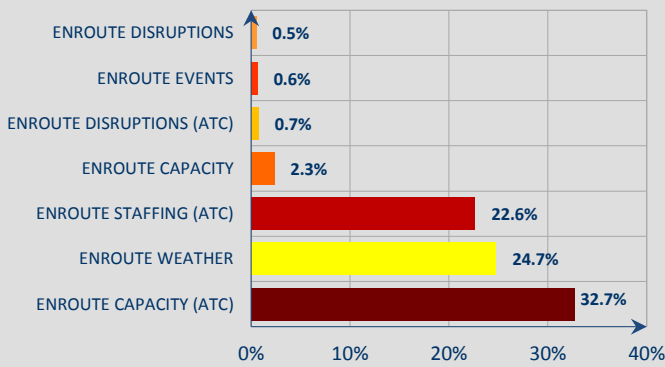
These are the top 20 en-route ATFM delay generating locations for the reporting month with respect to total ATFM delays. Figures are the average daily delays in minutes for the individual locations.

The top 20 en-route ATFM delay locations generated **75.4%** of the monthly total (network) ATFM delay. The top 5 en-route ATFM delay locations generated **44.7%** of the monthly total (network) ATFM delay.

More detailed information available in the Airspace dashboard via the [ATFM Statistics dashboard](#).

EN-ROUTE ATFM DELAY PER DELAY GROUP

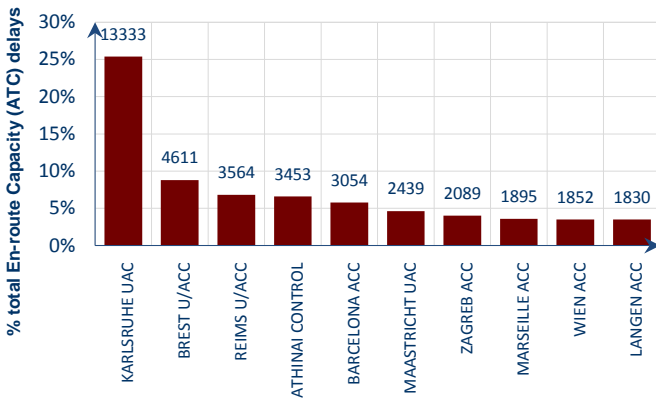
Reasons for en-route delays in July 2018



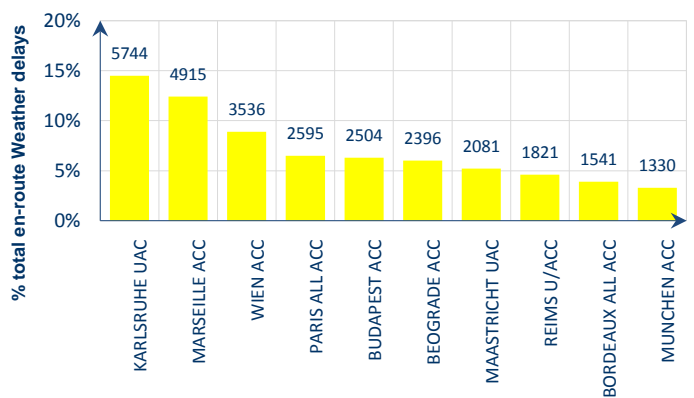
En-route ATFM delays accounted for 84.2% of all ATFM delays. Most of this delay was caused by en-route ATC capacity, en-route weather and en-route ATC staffing as explained in detail below. The other causes were:

- En-route capacity*; Military exercises in Karlsruhe, Maastricht, Nicosia, Brest and Reims ACCs;
- En-route ATC disruptions*; FDPS issues in Brussels ACC; ATFM protective measures in Marseille TMA due power failures at Lyon/Saint Exupery airport; Communication system failure in Bordeaux ACC; FPDS instability in Marseille and Rome ACCs;
- En-route events*; ExCDS implementation in London TC.

Top en-route Capacity (ATC) delays in July 2018



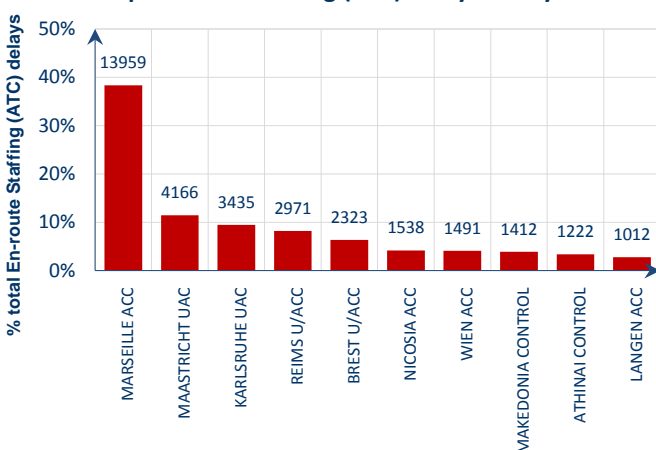
Top en-route Weather delays in July 2018



Karlsruhe UAC was the biggest generator of en-route ATC capacity delays in July. Strong seasonal traffic growth added complexity in several ACCs and especially in Athens ACC.

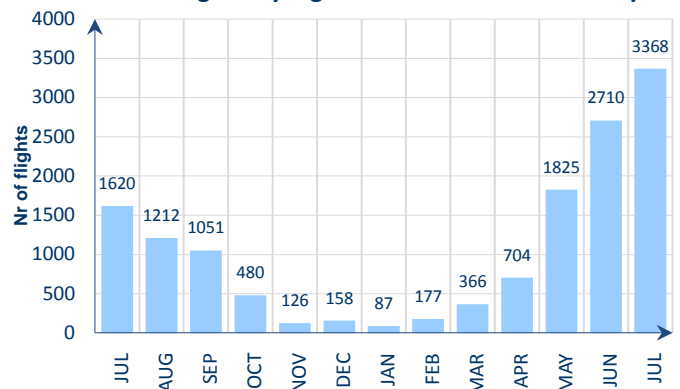
Thunderstorms affected large areas of North West Europe with intense local convective activity in Karlsruhe and Marseille ACCs, with a peak of 34,070 minutes in Karlsruhe UAC and 34,546 minutes in Marseille ACC on 16 July.

Top en-route Staffing (ATC) delays in July 2018



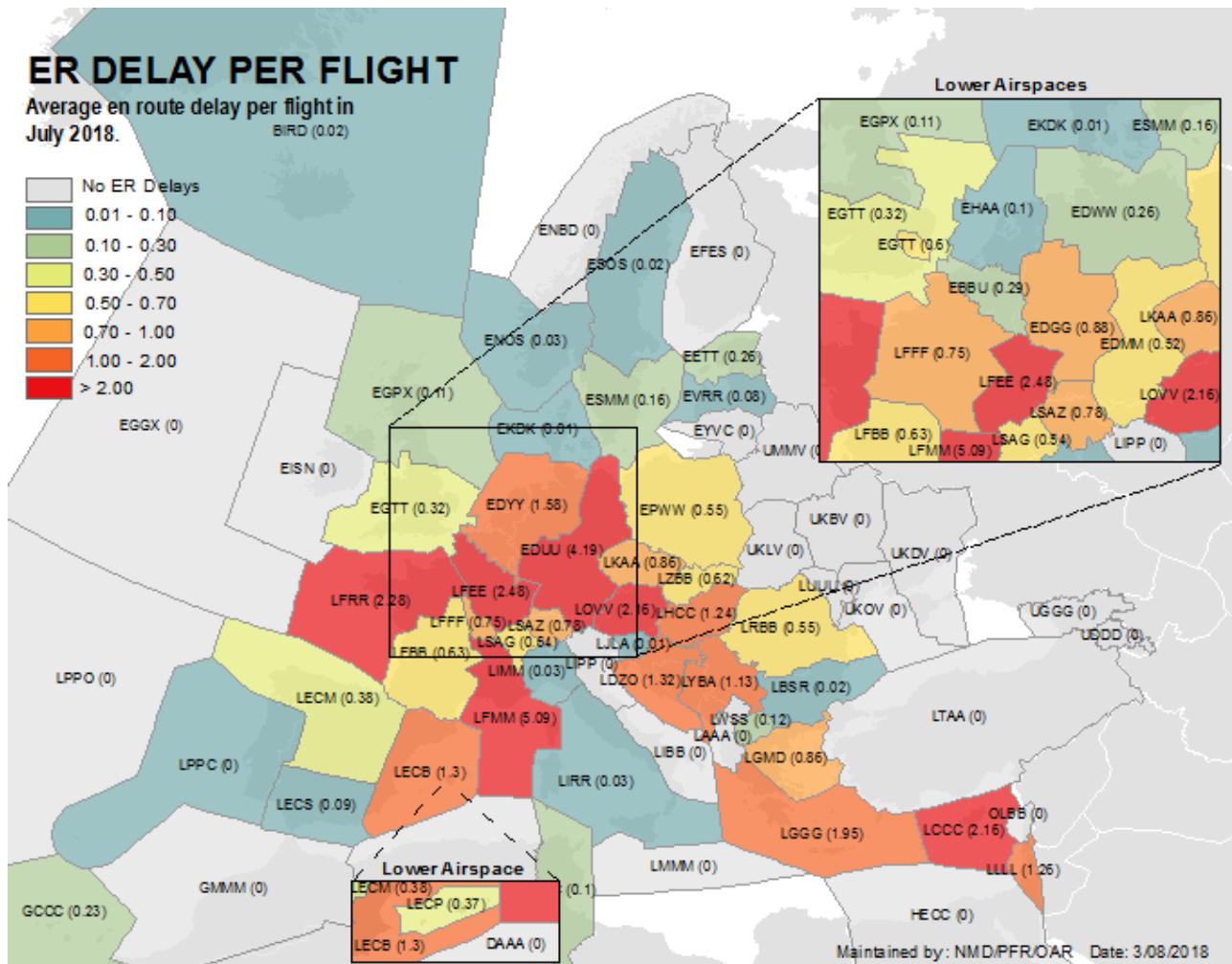
High delays in Marseille ACC due to staffing issues and, to a lesser extent, in Maastricht, Karlsruhe, Reims and Brest ACCs.

Average daily flights >= 15 min en-route delay

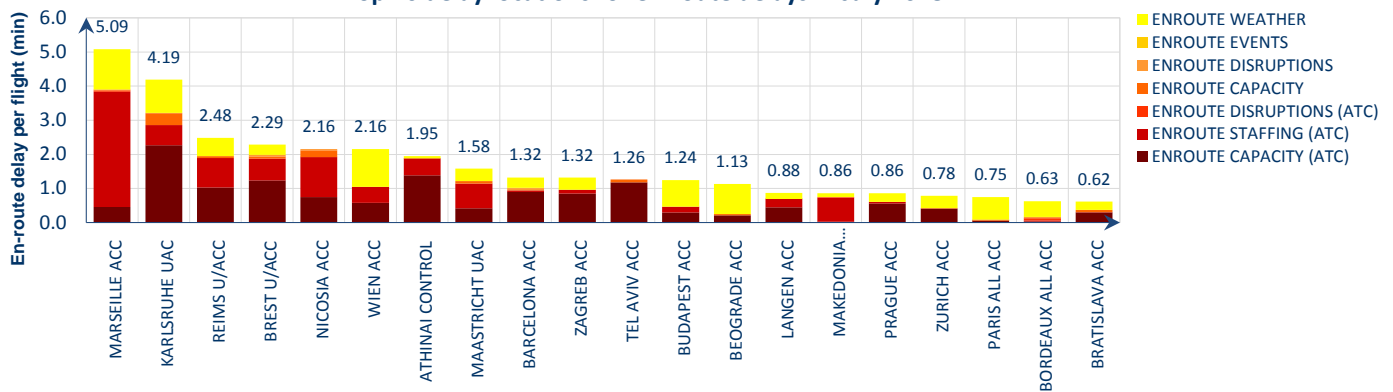


The average daily flights with an en-route ATFM delay of at least 15 minutes increased from 1,620 flights/day in July 2017 to 3,368 flights/day in July 2018, which represents 9.6% of all traffic.

EN-ROUTE ATFM DELAY PER FLIGHT



Top 20 delay locations for en-route delays in July 2018



These are the top 20 average en-route ATFM delay per flight generating locations for the reporting month. Figures are the average en-route ATFM delay per flight in minutes for the individual locations.

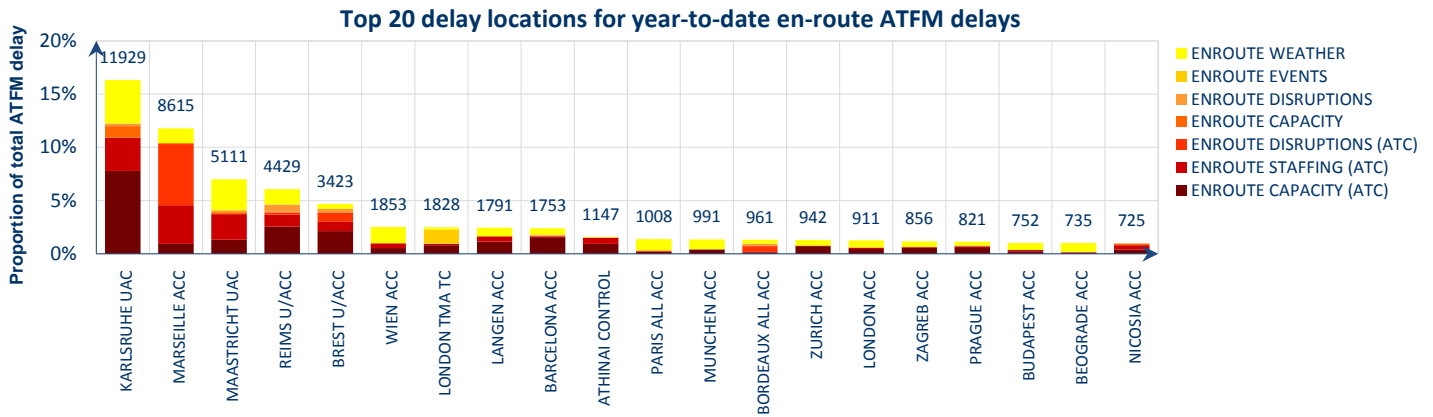
Marseille ACC en-route ATFM delay/flight increased from 4.43 min/flight in June 2018 to 5.09 min/flight in July 2018, mainly due to ATC staffing issues;

Karlsruhe UAC en-route ATFM delay/flight increased from 3.77 min/flight in June 2018 to 4.19 min/flight in July 2018, mainly due to ATC capacity and weather;

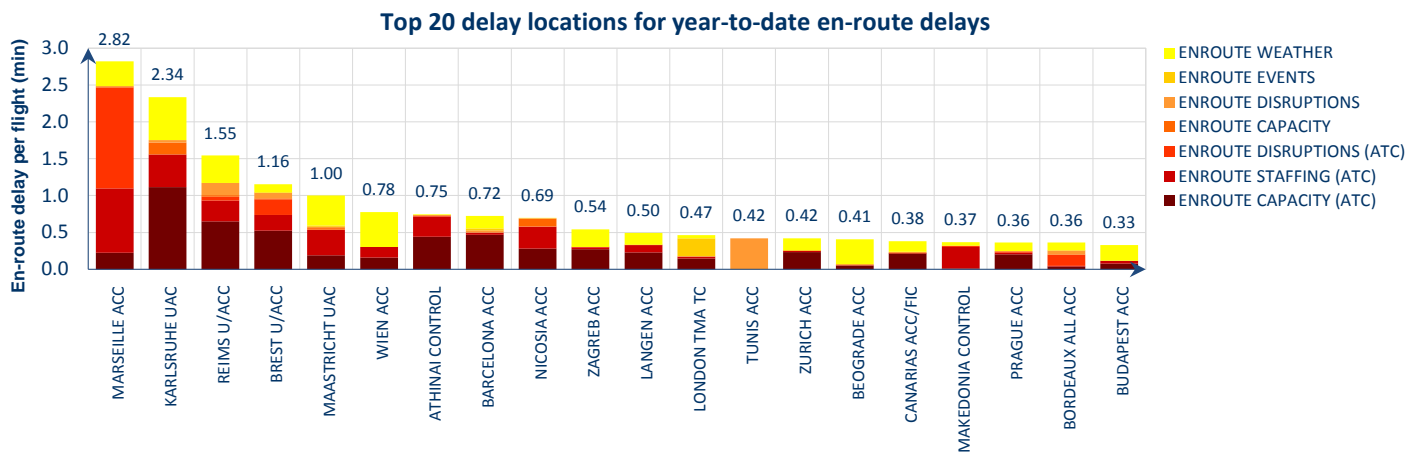
Reims ACC en-route ATFM delay/flight decreased from 3.49 min/flight in June 2018 to 2.48 min/flight in July 2018 due to less en-route disruptions delays;

Zurich ACC en-route ATFM delay/flight decreased from 1.13 min/flight in June 2018 to 0.78 min/flight in July 2018 due to less ATC capacity issues.

EN-ROUTE ATFM DELAY YEAR-TO-DATE



These are the top 20 en-route delay locations for 2018 with respect to the total ATFM delay. Figures are the average daily en-route delay in minutes for the individual locations. The top 20 en-route delay locations generated **69.3%** of the total ATFM (network) delay. The top 5 en-route delay locations generated **45.9%** of the total ATFM (network) delay.



These are the top 20 average en-route ATFM delay per flight generating locations in 2018. Figures are the average daily en-route delay in minutes for the individual locations.

Monthly en-route delay per flight monitoring

Reporting month: The average en-route ATFM delay per flight in the NM area^{iv} in July was 3.87 min/ft, which is well above the corresponding monthly guideline^v value of 1.08 min/ft.

Year To Date: The average YTD en-route ATFM delay per flight in 2018 in the NM area^{iv} is 1.90 min/ft which is more than three times the corresponding guideline value of 0.52 min/ft.

Year-to-date daily flights >= 15 min en-route delay

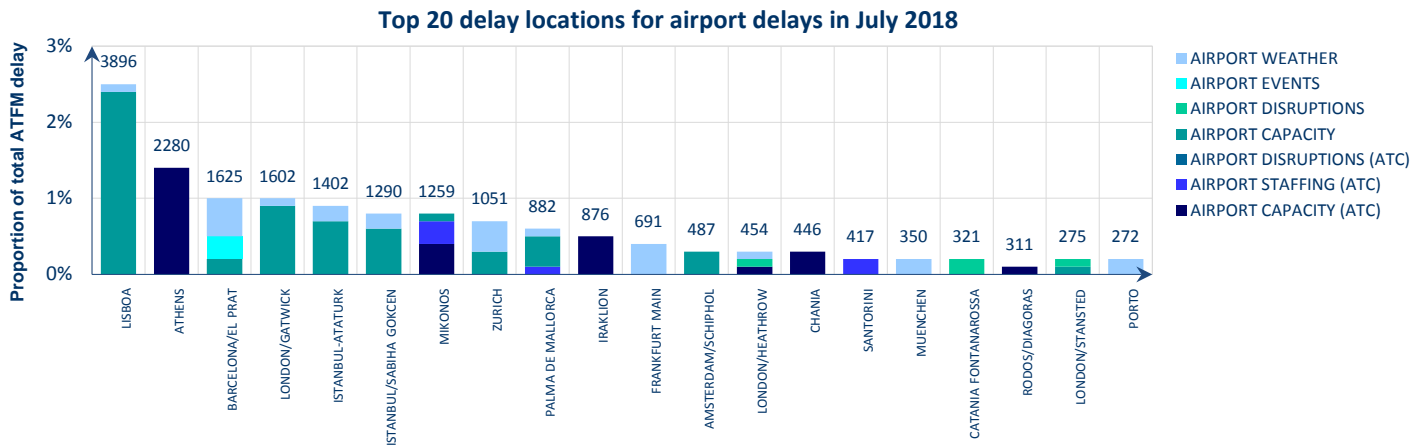
An average of 1,332 flights/day had an en-route ATFM delay of at least 15 minutes in 2018. The corresponding figure in 2017 was 580 flights/day.

The top 3 locations for flights with 15 minutes or more en-route ATFM delay (year-to-date) are:

- Karlsruhe UAC with 275 flights/day
- Marseille ACC with 198 flights/day
- Maastricht UAC with 123 flights/day

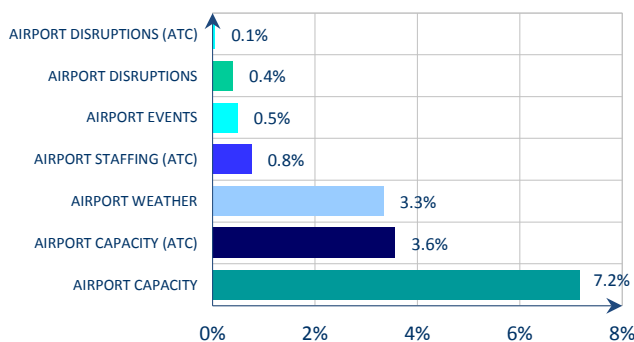
4. AIRPORT/TMA ATFM DELAYS

AIRPORT/TMA ATFM DELAY PER LOCATION

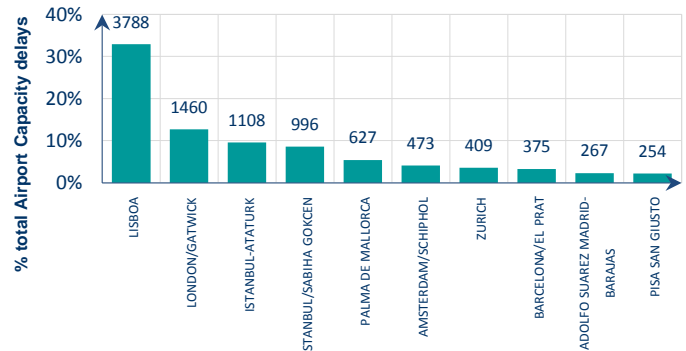


AIRPORT/TMA ATFM DELAY PER DELAY GROUPS

Reasons for airport delays in July 2018



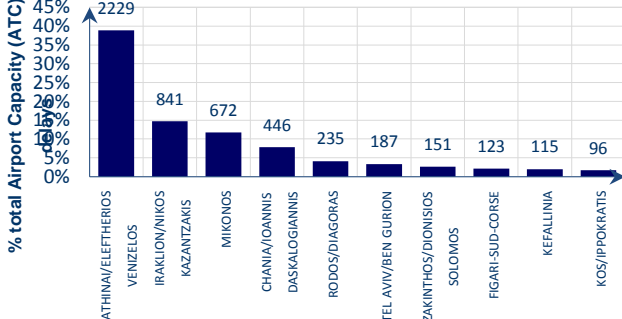
Top Airport Capacity delays in July 2018



Airports accounted for 15.8% of all ATFM delays in July 2018, mainly due to aerodrome capacity and weather.

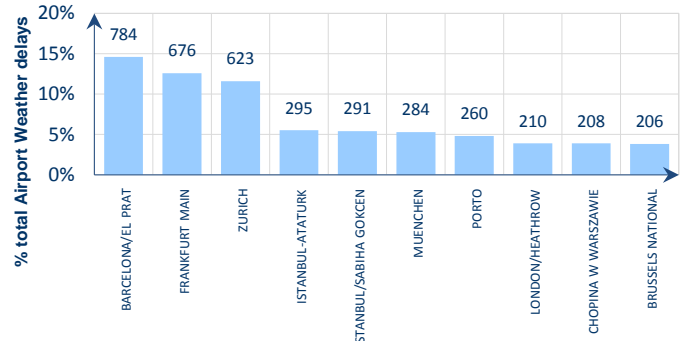
Early arrivals and constraints elsewhere in the network are having an operational impact at Lisbon airport, especially during the early morning period. Arrivals regulated in London/Gatwick airport to balance with departures throughout the month.

Top Airport Capacity (ATC) delays in July 2018



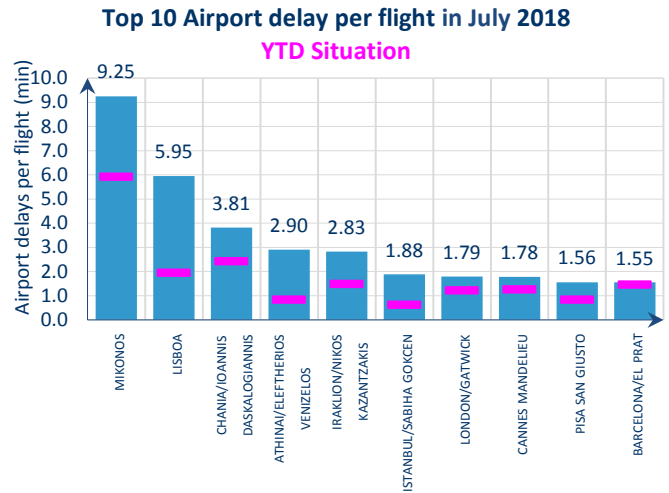
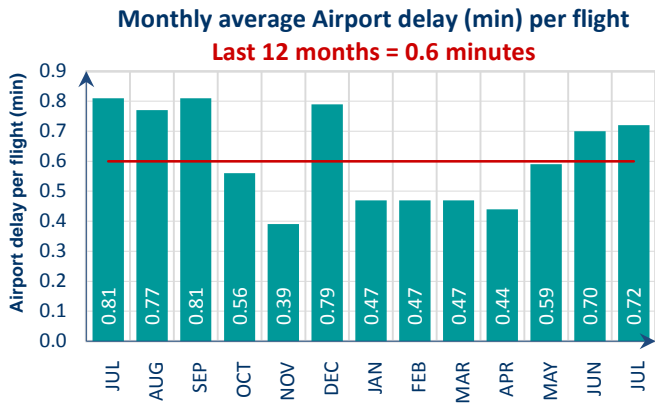
Greek island and Athens airports generated delays due to high demand relative to their capacity throughout the month.

Top Airport Weather delays in July 2018



Thunderstorms impacted operations at several airports throughout the month, and especially at Barcelona and Frankfurt airports with a peak of 9,827 minutes at Barcelona airport and a peak of 5,118 minutes at Frankfurt on 22 July.

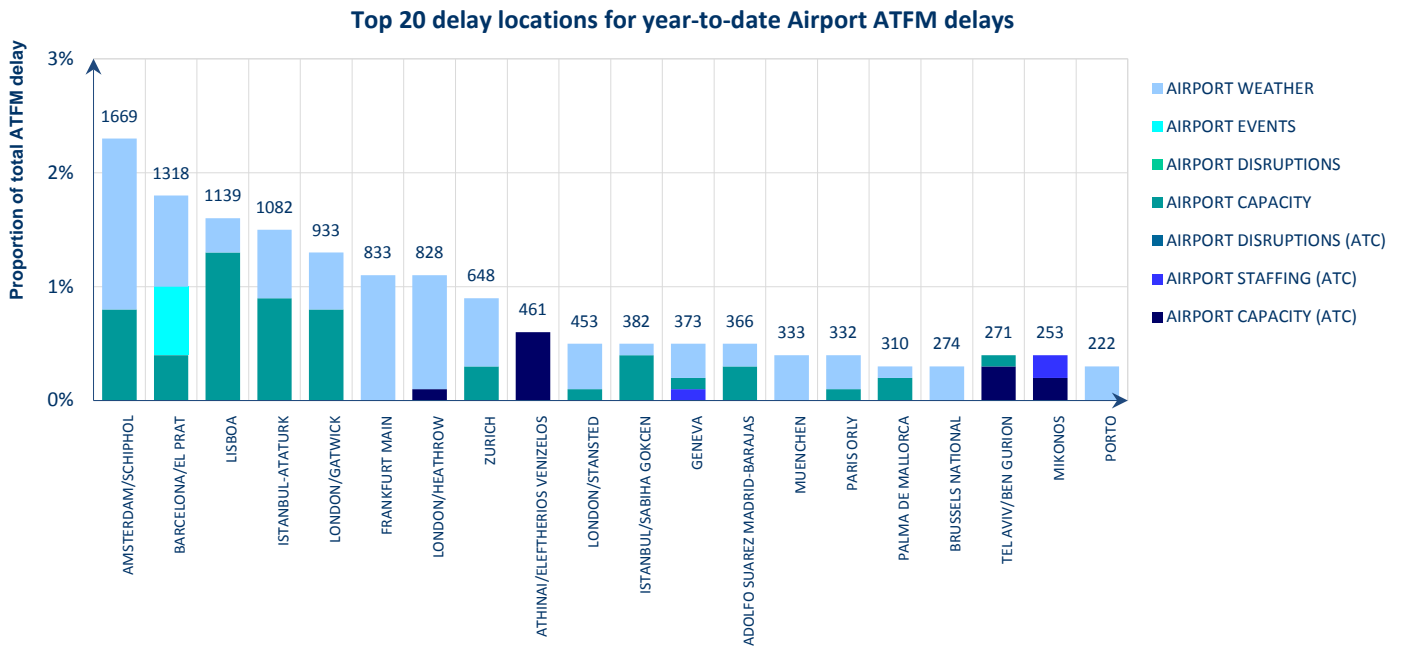
AIRPORT/TMA ATFM DELAY PER FLIGHT



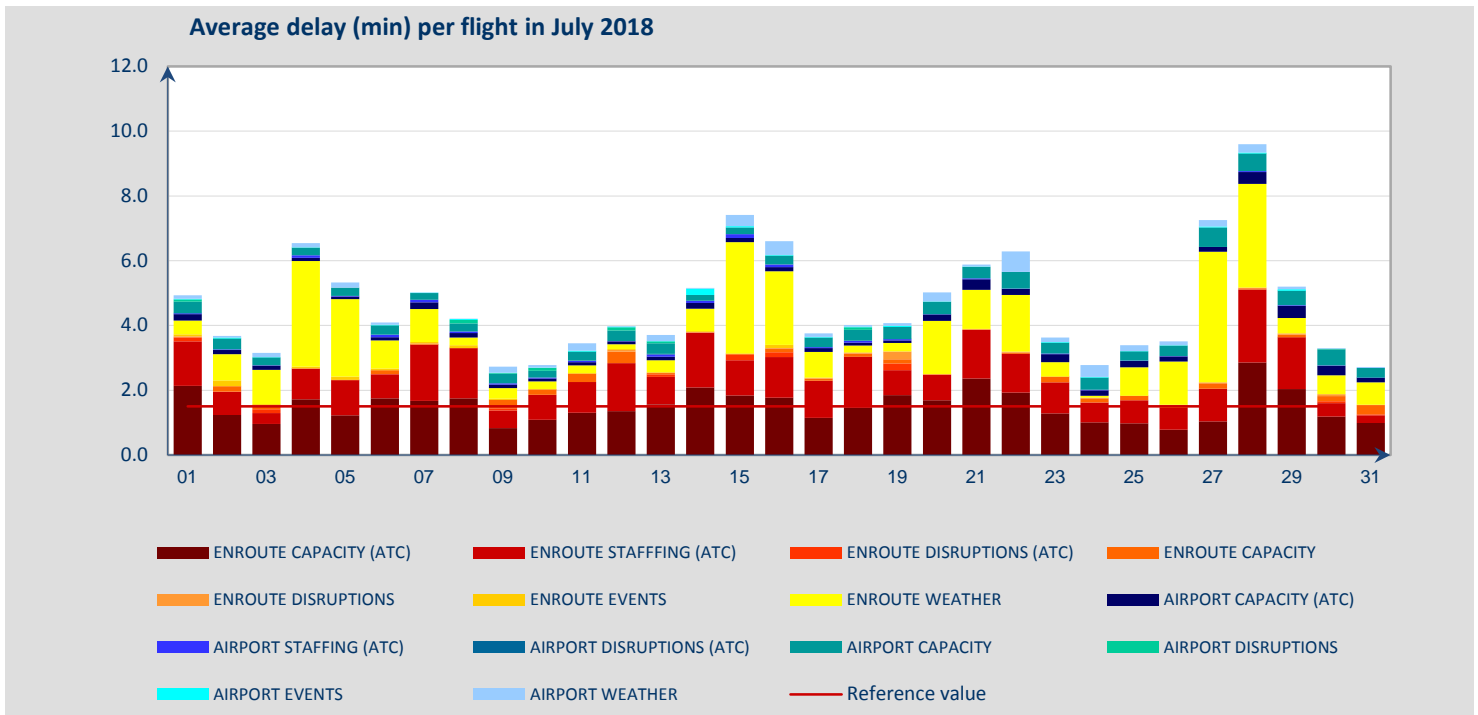
Average airport/TMA delay per flight decreased from 0.81 min/ft in July 2017 to 0.72 min/ft in July 2018.

Mikonos, Lisboa, Athens and Iraklion airports generated an average delay per flight well above their year to date average. Mikonos, Chania, Athens and Iraklion airports were impacted by ATC capacity and staffing.

AIRPORT/TMA ATFM DELAY YEAR-TO-DATE



5. DAILY EVOLUTION



All days in July 2018 had an average ATFM delay per flight exceeding 1.5 min and most weekend days had an average over 5 min. Weather had a huge impact throughout the month.

Despite being the quietest days of the week in terms of total traffic demand, more ATFM delay occurred on Saturdays and Sundays than on any weekday. Traffic flows on weekends, being more concentrated to holiday destinations, and weekends being peak traffic demand days in Brest, Lisbon, Marseille, Barcelona, Padua, Beograd and Athens ACCs, are more susceptible to disruption. These were the most significant days:

04 July: Convective activity impacted strongly operations in Bordeaux, Karlsruhe, Reims and Maastricht ACCs, and to a lesser extent in Marseille, Vienna and Paris ACCs; En-route ATC capacity delays in Karlsruhe, Brest, Marseille, Athens, Nicosia and Madrid ACCs; ATC staffing issues in Marseille, Karlsruhe, Maastricht, Langen and Athens ACCs; Capacity delays at Pisa, Lisbon, London/Gatwick and Istanbul/Sabiha Gökçen airports; Thunderstorms impacted operations at Amsterdam/Schiphol, Palma de Mallorca, Barcelona and Madrid airports;

15 July: Weather generated high en-route delays in Karlsruhe, Paris, Reims and Vienna ACCs; En-route capacity delays in Karlsruhe, Madrid, Barcelona, Maastricht and Bucharest ACCs; High delays due to ATC staffing in Marseille and Reims ACCs; Seasonal weather impacted operations at Munich, Frankfurt/Main, Lisbon and Zurich airports; Aerodrome capacity issues at Barcelona, London/Gatwick and Lisbon airports; Airport event delays due to BRAIN implementation in Barcelona TMA; ATFM protective measures in Marseille TMA due to power failure at Lyon/Saint Exupery airport;

16 July: High weather delays in Marseille, Karlsruhe and Vienna ACCs; En-route ATC staffing issues in Marseille, Maastricht and Reims ACCs; Thunderstorms impacted operations at Barcelona and Frankfurt/Main airports; Aerodrome capacity delays at Lisbon and London/Gatwick airports; Frequency problems in Bordeaux ACC;

22 July: En-route ATC capacity delays in Karlsruhe, Brest, Vienna, Athens and Barcelona ACCs; Convective activity impacted operations in Karlsruhe, Marseille, Budapest, Barcelona, Prague and Zurich ACCs; Seasonal weather generated delays at Barcelona, Frankfurt/Main and Palma de Mallorca airports; Aerodrome capacity issues at Lisbon airport; ATC capacity delays due to high demand at Mikonos and Athens airports;

27 July: Convective activity impacted strongly operations in London and Paris ACCs, and to a lesser extent in Karlsruhe, Budapest, Maastricht, Brest and Beograd ACCs; ATC capacity delays in Karlsruhe, Reims, Madrid, Brest and Barcelona ACCs; ATC staffing issues in Marseille, Brest, Athens, Maastricht and Budapest ACCs; Aerodrome capacity issues at Lisbon, London/Gatwick, Mikonos, Istanbul/Ataturk and Istanbul/Sabiha Gökçen airports; Military activity in Karlsruhe UAC generated delays;

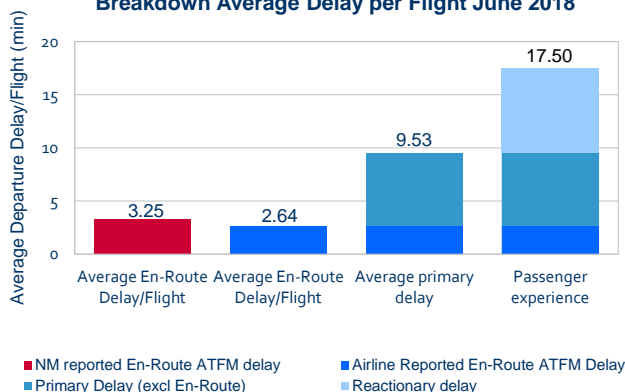
28 July: High weather delays in Budapest, Karlsruhe, Beograd, Vienna, Prague and Geneva ACCs; Capacity issues in Karlsruhe, Maastricht, Marseille, Reims, Barcelona, Vienna, Beograd, Brest and Zagreb ACCs; Aerodrome capacity delays at Lisbon, Palma de Mallorca, Istanbul/Ataturk, Munich and Istanbul/Sabiha Gökçen; ATC capacity delays at Athens, Mikonos, Chania, Rodos and Iraklion airports; Weather impacted operations at Frankfurt/Main, Zurich and London/Heathrow airports.

6. ALL AIR TRANSPORT DELAYS (SOURCE: CODA)

This section presents the all air transport delay situation as seen from the airlines by using the data collected by Central Office for Delay Analysis (CODA) from airlines. Data coverage is 54% of the commercial flights in the ECAC region for June 2018. ATFM delays reported by airlines could be lower than the NM calculated ATFM delays due to difference in methods: ATFM delays of NM are the (flight) planned “delays”; the airlines report the “actual” experienced ATFM delay on departure.

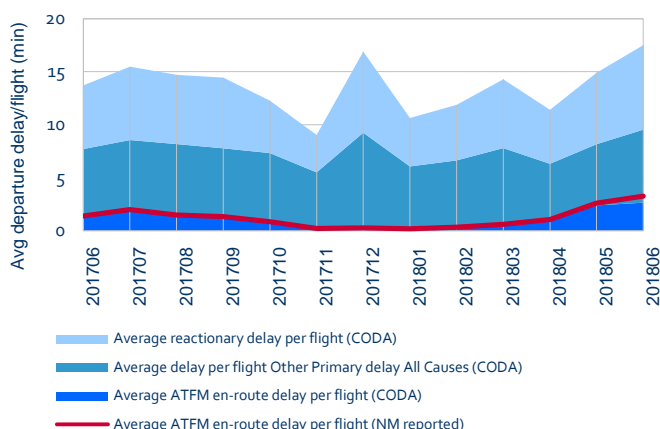
For instance, a flight with an ATFM delay may also have a handling delay absorbed within the ATFM delay. In the event of a long delay an example being during ATC industrial action a flight may keep its original schedule however when it's flight plan is submitted for example a day later any ATFM delay allocated may be lower or zero, in this case airline reported delay will exceed NM reported ATFM delay.

Breakdown Average Delay per Flight June 2018



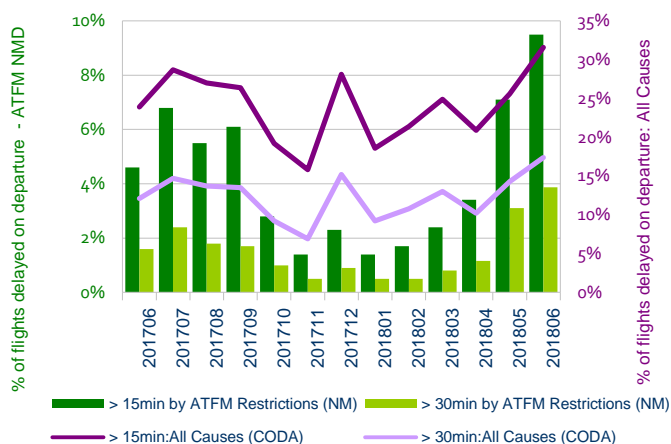
Based on airline data, the average departure delay per flight from ‘All-Causes’ was 17.5 minutes per flight, a significant increase in comparison to June 2017 where the average delay was 13.5 minutes per flight. Primary delays counted for 54.5% or 9.5 min/ft, with reactionary delays representing the smaller remaining share of 45.5% at 8.0 min/ft, and increase of 2.0 min/ft compared to June 2017. The increase in primary delays was mainly driven by the strong increase in ATFM en-route delays (+1.3 min/ft) and airline delays (+0.8 min/ft).

Average Departure Delay per Flight 2017/2018



Further analysis of the past 12 months shows that the average ‘All-Causes’ en-route ATFM delay reported by airlines was 2.6 minutes per flight in June 2018. This is double compared to June 2017 when the ‘All-Causes’ en-route ATFM delay was 1.3 minutes per flight. June 2018 saw weather related ATFM delays throughout the central area of the network, ATC capacity delays and ATC industrial actions, which in turn caused an increase in reactionary delays for airlines.

Percentage of Delayed Flights: ATFM & All Causes

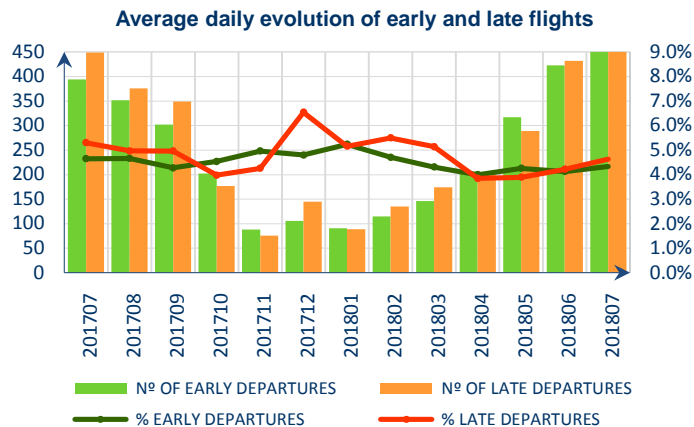


The percentage of flights delayed greater than 15 minutes from ‘All-Causes’ increased by 7.7 percentage points to 31.6%. Delays exceeding 30 minutes also increased, with 17.4% of flights delayed in June 2018.

For more information on CODA delays:

<http://www.eurocontrol.int/sites/default/files/publication/files/flad-june-2018.pdf?update=2706>

7. ATFM SLOT ADHERENCE

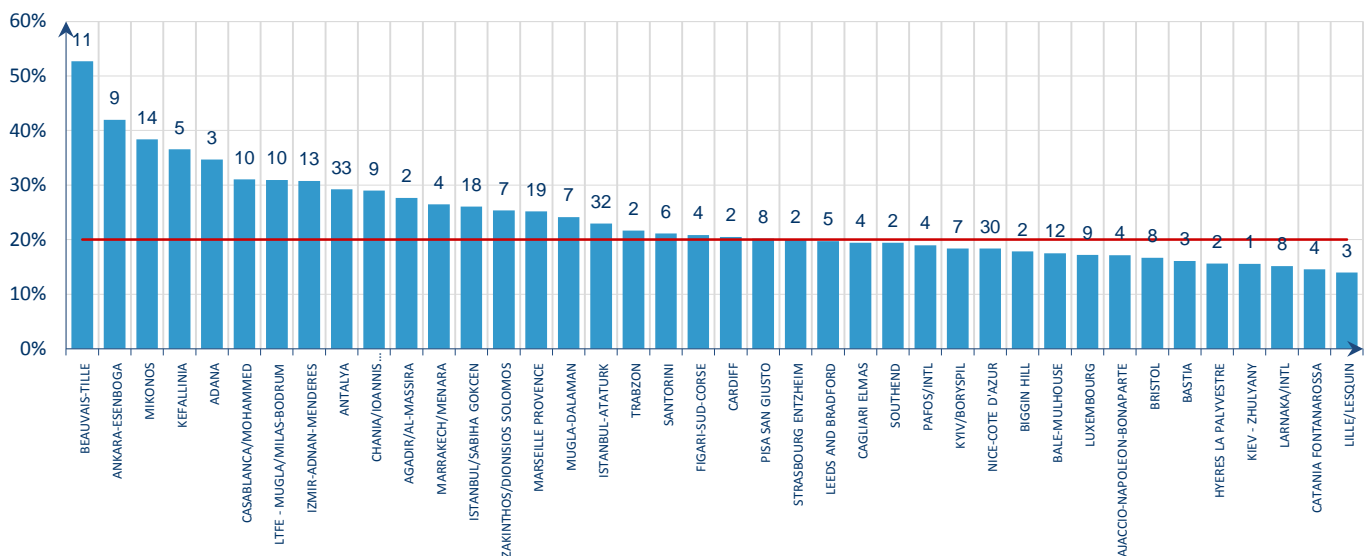


The percentage of early departures for July 2018 is 4.3% of regulated flights, which is a decrease of 0.3 percentage points compared to July 2017.

The percentage of late departures for July 2018 is 4.6% of regulated flights, which is a decrease of 0.7 percentage points compared to July 2017.

The chart below shows the airports that have more than 300 regulated flights during the month with their average daily number and proportion of regulated flights that departed outside of the Slot Tolerance Window (STW). Any airport above the red line is non-compliant with the threshold (20%). Those airports with a number of departures outside the slot tolerance window can reduce network predictability.

Proportion of regulated flights outside the Slot Tolerance Window in July 2018



8. SIGNIFICANT EVENTS AND ISSUES

PLANNED EVENTS

ACC

MAJOR AIRSPACE OR ATM SYSTEM IMPROVEMENT PROJECTS

PLANNED EVENTS

London TC introduced ExCDS into the TMA Midlands and Capital sectors, and generated 29,171 min of ATFM delay across the whole month. Previously, 20% of capacity reductions had been planned up to 20 July for the said sectors. This amount of delay represented 35% of total delay (83,035 min) by London TC in July.

ADDITIONAL INFORMATION

Bordeaux ACC generated 3,684 minutes of ATFM delay due to the reorganized interface with LECB/LEBL.

Barcelona ACC generated 6,132 minutes of ATFM delay due to the improved interface with LFBB.

AIRPORTS

Local Plans in July

A number of airports undertook infrastructure and technical system improvement works during July. These improvements as well as some special events had at most a minor impact on local airport operations, unless otherwise stated.

Special Events

- Fly-past for 100 years of RAF and Queen's Birthday across southern United Kingdom on 10 July generated 1,981 minutes of ATFM delay;
- NATO Summit in Brussels from 10 until 12 July;
- Presidential visit to UK on 12 and 13 July generated 4,716 minutes of ATFM delay at London/Stansted airport;
- Airshows (including rehearsals) and ceremonies for Bastille day generated 6,751 minutes of ATFM delay in total for Paris/Charles de Gaulle, Paris/Orly, Paris/Le Bourget, Nice, Toulouse/Blagnac and Pontoise/Cormeille airports;
- Farnborough International Air Show from 15 until 23 July;
- Belgian National Day - Fly-by over the Royal Palace on 21 July, with Fly-by rehearsals on 9 and 17 July;
- Bucharest International Air Show from on 27 and 28 July generated 1,442 minutes of ATFM delay;
- BRAIN (Barcelona RNAV Approach Innovations) generated 14,408 minutes of ATFM delay during July.

Completed

- Runway maintenance/closure at Amsterdam/Schiphol, Cologne (1,785 minutes of ATFM during several days), Hamburg and Pisa (7,869 minutes of ATFM delay during several days) airports;
- Taxiway and/or apron improvements at Amsterdam/Schiphol, Copenhagen, Riga (5,984 minutes of ATFM delay on 11 and 12 July) and Rome/Fiumicino airports;
- ILS maintenance at Poznan airport.

Ongoing

- Runway maintenance/closure at Cologne, Istanbul/Sabiha Gökçen, Krakow, Paris/Charles de Gaulle and Stockholm/Arlanda airports;
- Taxiway and/or apron improvements at Bergamo, Dusseldorf, Frankfurt/Main, Helsinki, Manchester, Paris/Charles de Gaulle, Stuttgart and Tenerife/Sur airports;
- ILS maintenance at Milan/Malpensa and Paris/Charles de Gaulle airports;
- Terminal building improvements/works at Budapest, Frankfurt/Main, Manchester, Oslo/Gardermoen and Paris/Charles de Gaulle airports.

DISRUPTIONS

Technical

- A hole on a taxiway in Catania/Fontanarossa airport resulted in taxiway maintenance and 9,951 minutes of ATFM delay from 01 until 12 July.
- Unplanned works on the manoeuvring area at Malaga airport generated 1,478 minutes of ATFM delay from 02 until 21 July;
- Unplanned works on the manoeuvring area at Toulouse airport generated 1,447 minutes of ATFM delay from 03 until 6 July;
- Frequency problems in Bordeaux ACC during several days generated 5,474 minutes of ATFM delay;
- Aircraft incident at London/Gatwick airport on 06 July generated 3,067 minutes of ATFM delay;
- Network connectivity issue in Brest ACC on 09 July generated 2,099 minutes of ATFM delay;
- ATFM protective measures in Marseille TMA due to locally reported power failure at Lyon/Saint Exupery airport from 13 to 16 July generated 9,658 minutes of ATFM delay;
- Evacuation of the ATC tower facility at London/Heathrow airport due to fire alarm on 18 July generated 2,801 minutes of ATFM delay;
- FDPS failure in Brussels ACC on 19 July generated 7,442 minutes of ATFM delay; Additional delays were recorded in Brest, Paris and Reims ACCs due to ATFM protective measures and generated 7,819 minutes of ATFM delay. NM estimates there were 149 fewer flights to / from Belgian airports.
- Security issues resulted in terminal evacuation at Munich airport on 28 July and generated 2,042 minutes of ATFM delay;
- Check-in issues at Rodos/Diagoras airport on 29 and 30 July resulted in 2,333 minutes of ATFM delay.

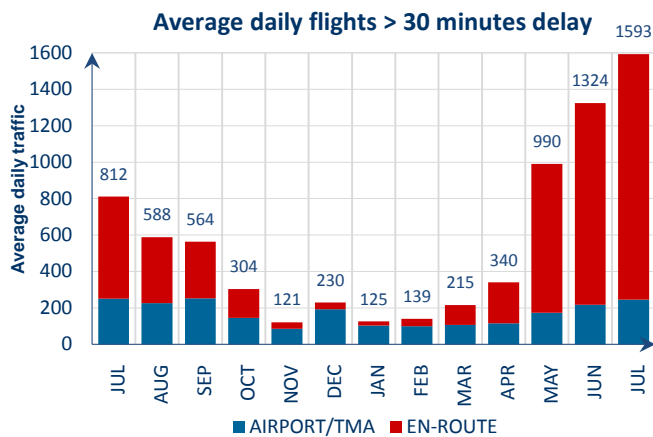
9. NM ADDED VALUE

FLIGHTS WITH DELAY > 30'

The number of flights with more than 30 minutes of ATFM delay increased between July 2017 and July 2018.

In July 2018, 84.6% of flights with more than 30 minutes of ATFM delay were en-route and 15.4% were airport.

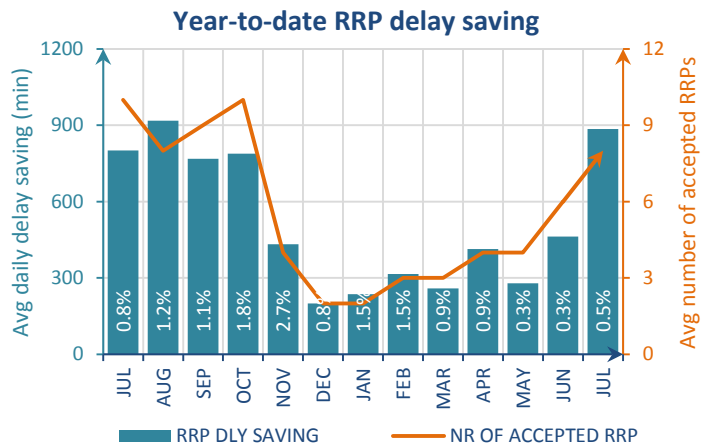
An average 212 flights per day had their delay reduced to less than 30 min by NM.



RRP DIRECT DELAY SAVINGS

On average 8 RRPs/day were executed saving 885 min/day, accounting for 0.5% of ATFM delays.

This graph shows the actual daily averages for the previous 13 months' period^{vi}.



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Contact Us

Operational Analysis & Reporting,
Performance, Forecasts and Relations (PFR) Unit,
Network Manager Directorate (NMD),
EUROCONTROL,
96 Rue de la Fusée,
B - 1130 Brussels

e-mail:

<http://www.eurocontrol.int/articles/network-operations-monitoring-and-reporting>

i On the 03 April the Network Manager suffered an outage of its technical system affecting its operational services, which resulted in the non-availability of traffic data. Therefore the NOR traffic data for this date are based on guideline estimated traffic.

ii See Notice on page 2 for more information on traffic and delay comparison.

iii Internals, international arrivals and departures, excluding overflights.

iv See Notice on page 2 for more information on NM Area .

v NM's calculation that provides the guideline en-route delay (min) requirements to achieve the annual target (0.5 min/flight).

vi NM has revised the delay saving method. Where flights are subject to scenarios, delay savings from RRPs are considered when the RRP is sent 3 hours (or less) in advance of the EOBT.