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“Weatherproofing the Network – NM Initiatives”

Controller-Pilot Symposium GATCO/BALPA

24th October 2018

Joe Sultana
Director Network Management

Network Manager
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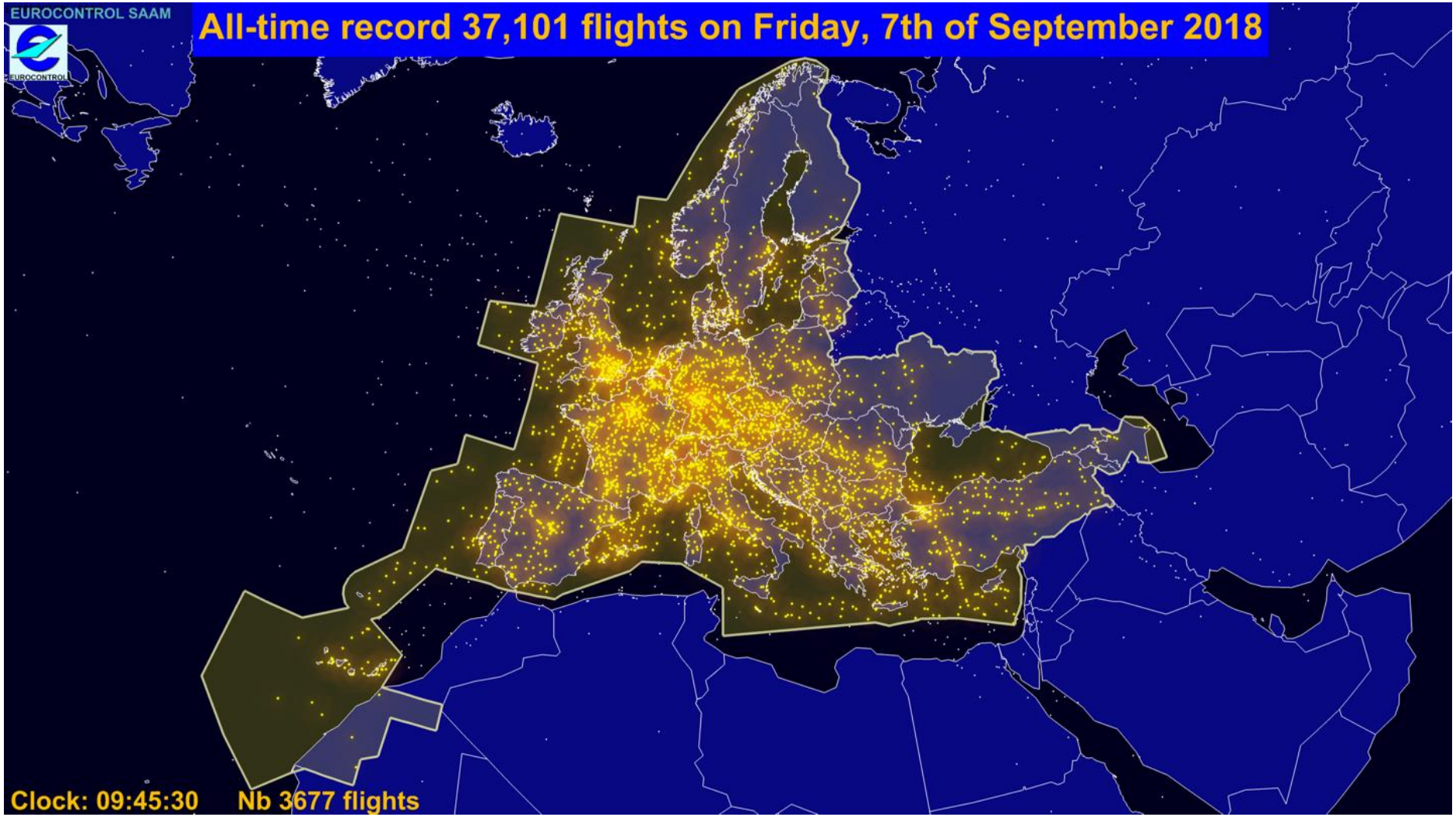
Friday, 7th September 09.45UTC



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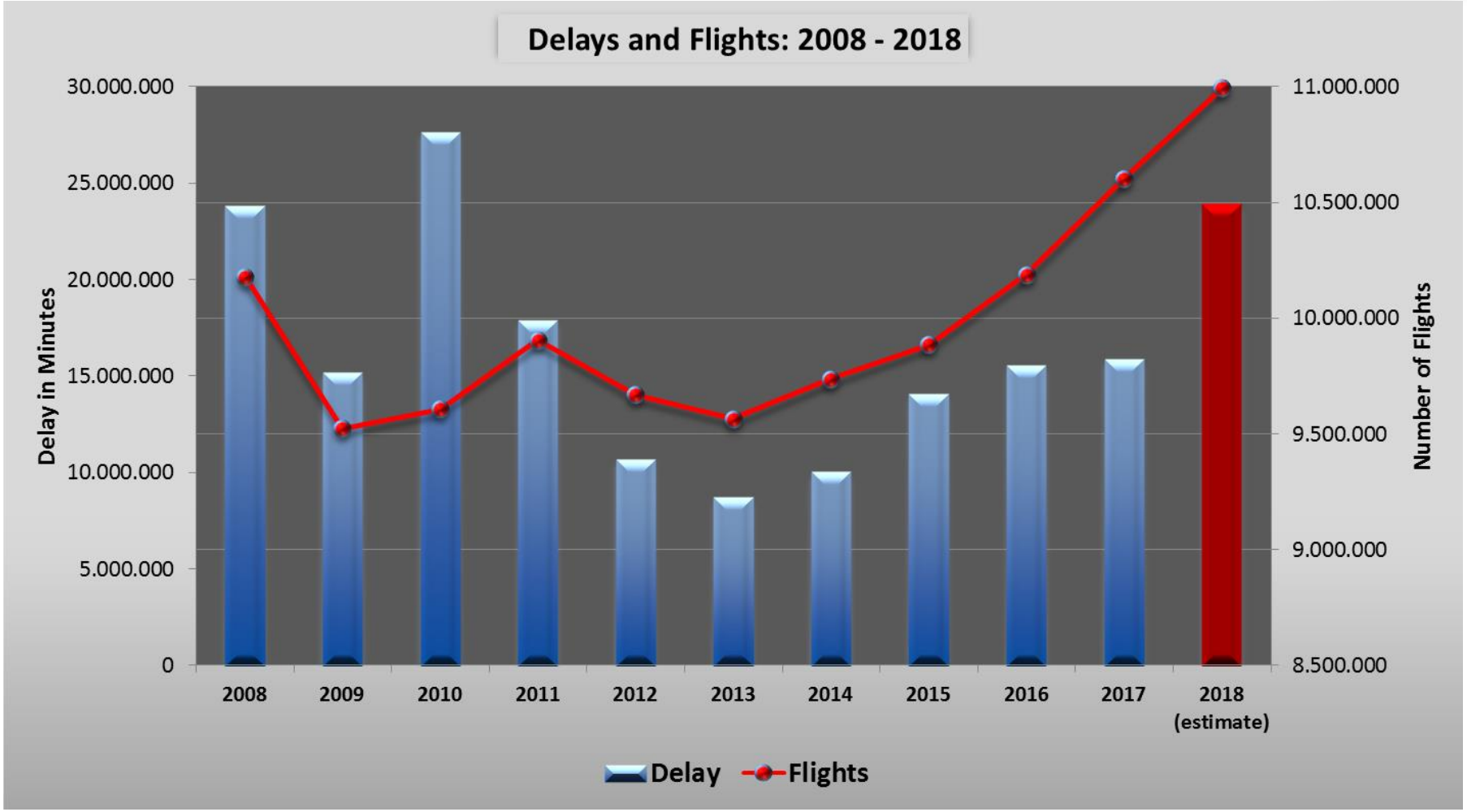

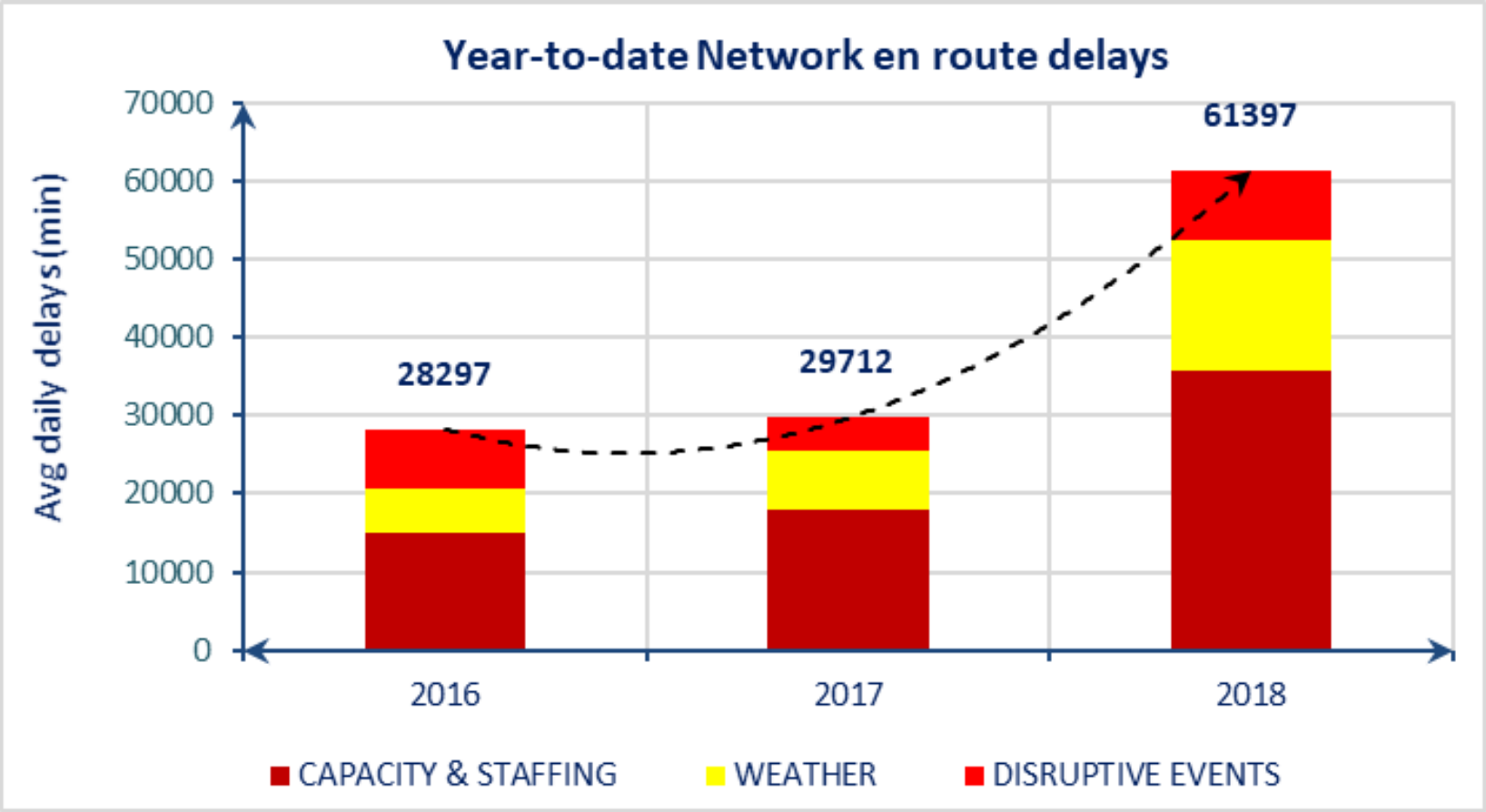
Year-to-date Network en route delays
Avg daily delays (min)
70000
60000
50000
40000
30000
20000
10000
0
28297
29712
61397
2016
2017
2018
CAPACITY & STAFFING
WEATHER
DISRUPTIVE EVENTS

Impact of weather on European network operations

Weather phenomenon at airports

- Will impact runway throughput
- Can affect major hubs simultaneously
- Requires local met knowledge and experience to better predict intensity and duration

Convective weather

- Affects enroute operations and ATC capacity
- Usually impacts airspace in several ACCs
- No acceptable European-wide convective wx forecast

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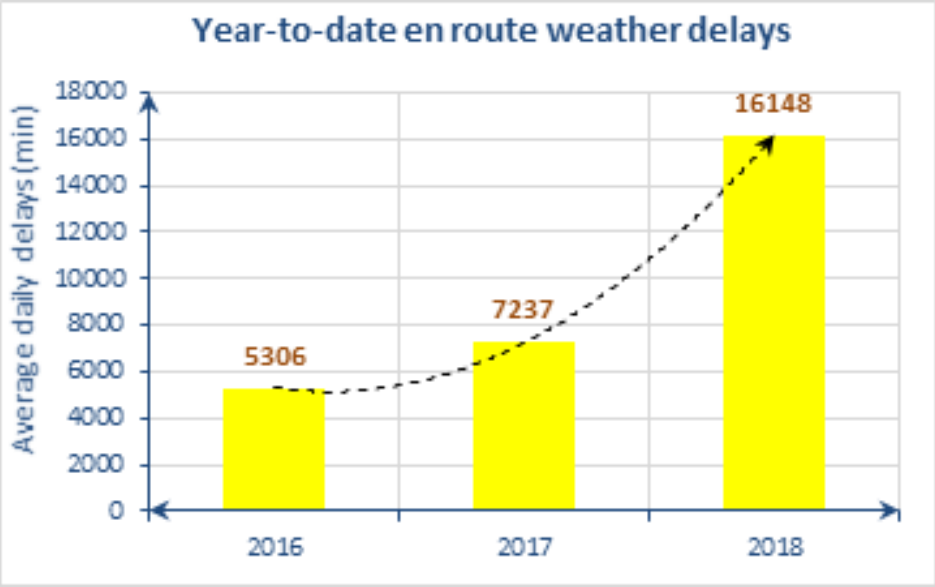
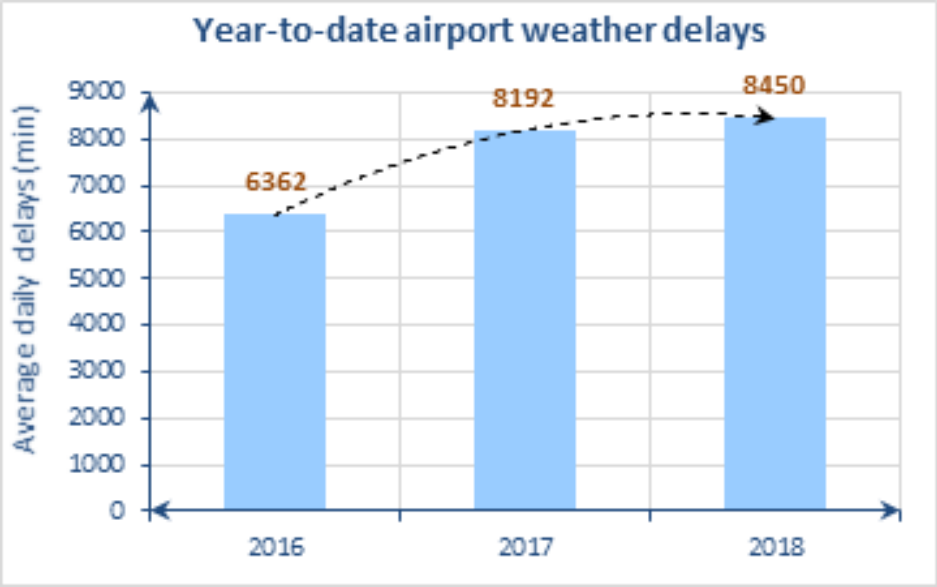
Weather delays





Weather at airports

- Will result in need to regulate airport movements
- Local contingency procedures and scenarios
- Requires early assessment of potential response and mitigation measures
- Decision time frame requires consideration of flight time of arriving traffic
- Information channel with NM ops centre to anticipate return to normal operations

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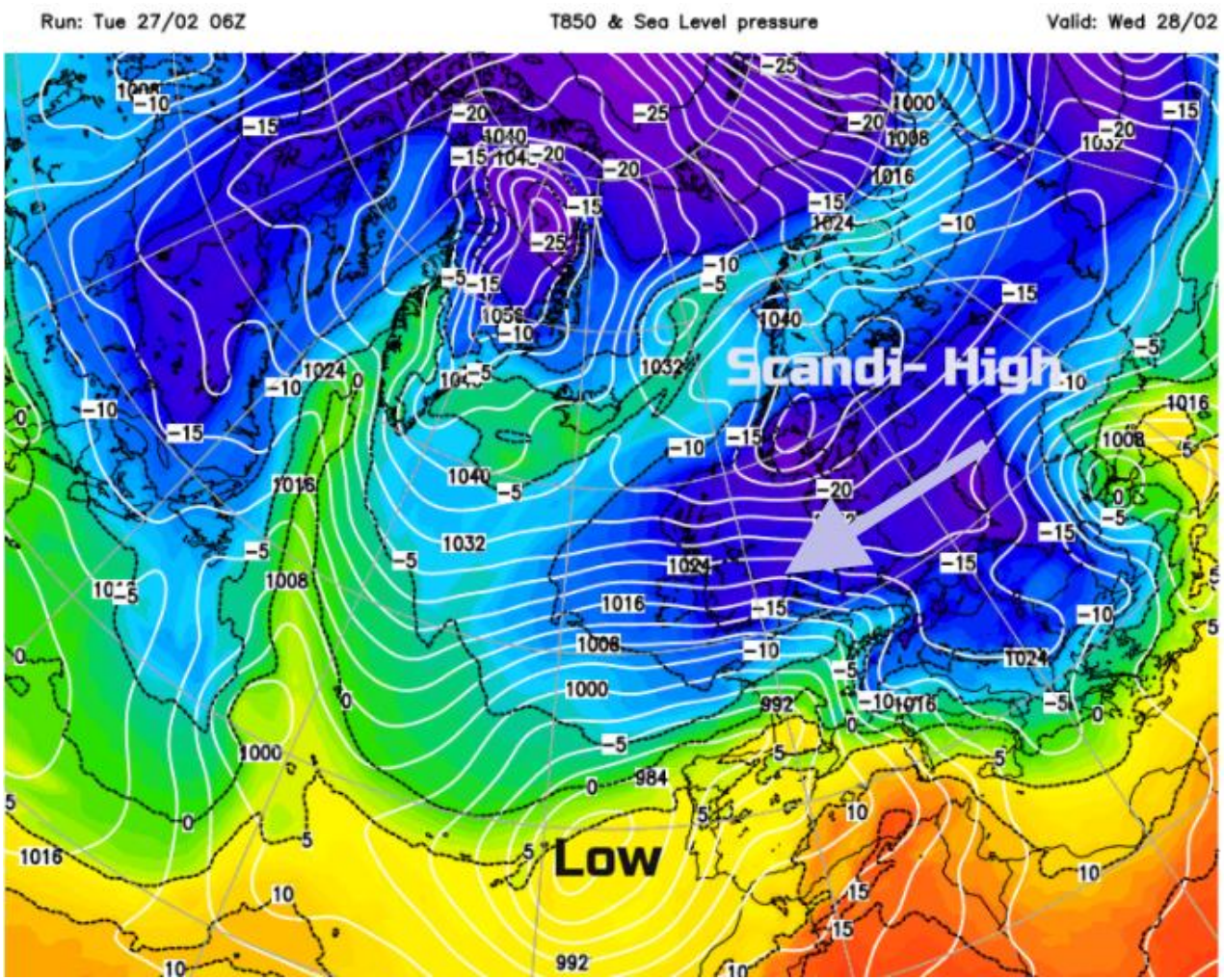

The Beast from the East- end of February- beginning March

Over 8500 flights cancelled.
Significant Airport unavailability.
65,000 minutes of delay.
Application lead in time : Avg 3hours
Local conferencing
No major en route measures.
Could this have been handled better?
Was this a network event?

Convective Weather in 2018

- Ever increasing occurrence in recent years
- Network level responses needed – weather does not respect borders
- Network must anticipate – from reaction to managed responses
- Impact on ATC is significant - unforeseen deviations, lack of/inability to transmit reliable info
- For Network Manager, the additional complexity and workload is just visible as lower sector capacity
- No or late recovery plan – loss of capacity, longer disruption
- No accepted MET view across borders
- Late application of flow measures, multiple restrictions disproportionate delays

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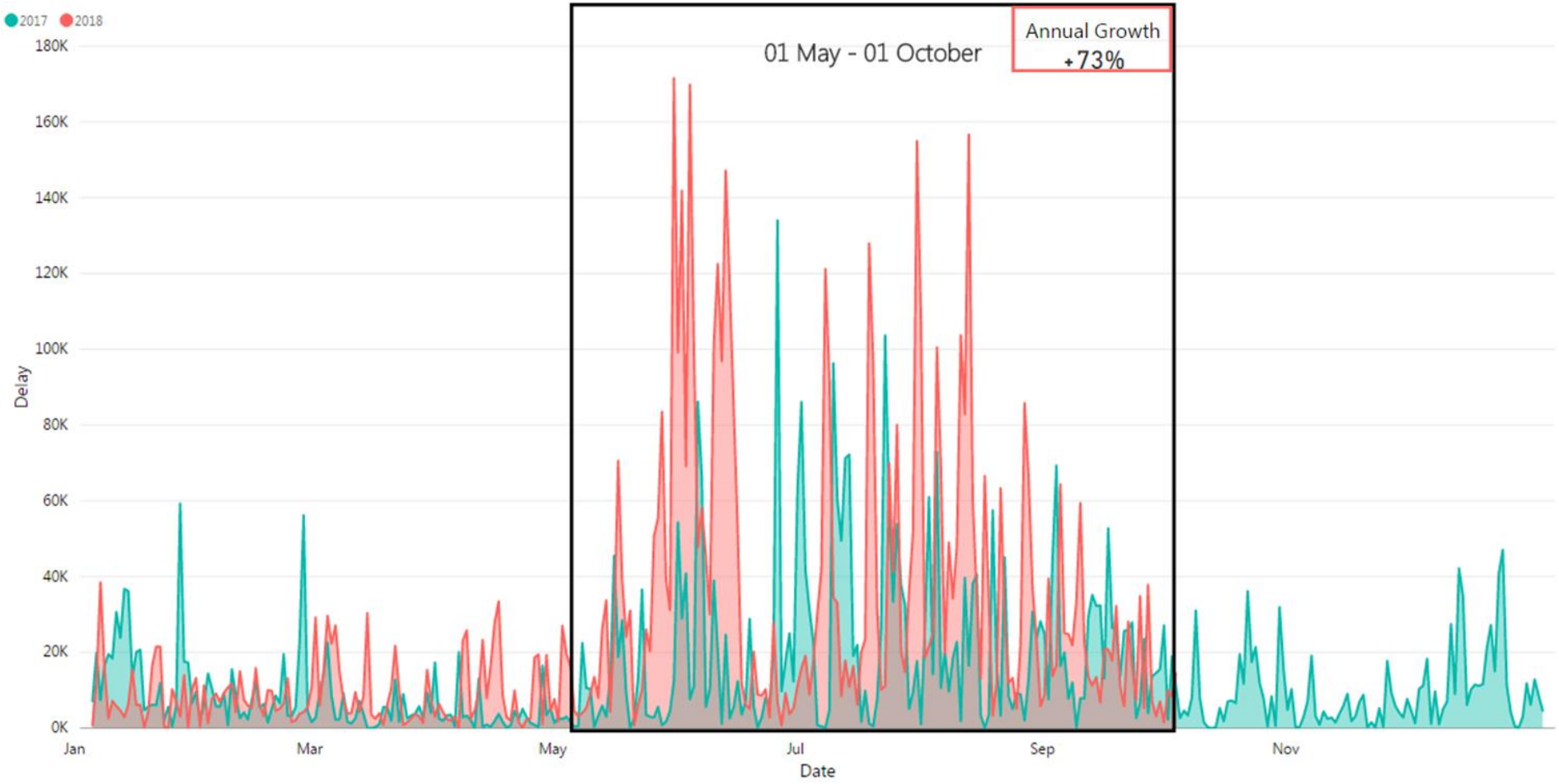
Weather delays (En route + Airport) 2017 vs. 2018



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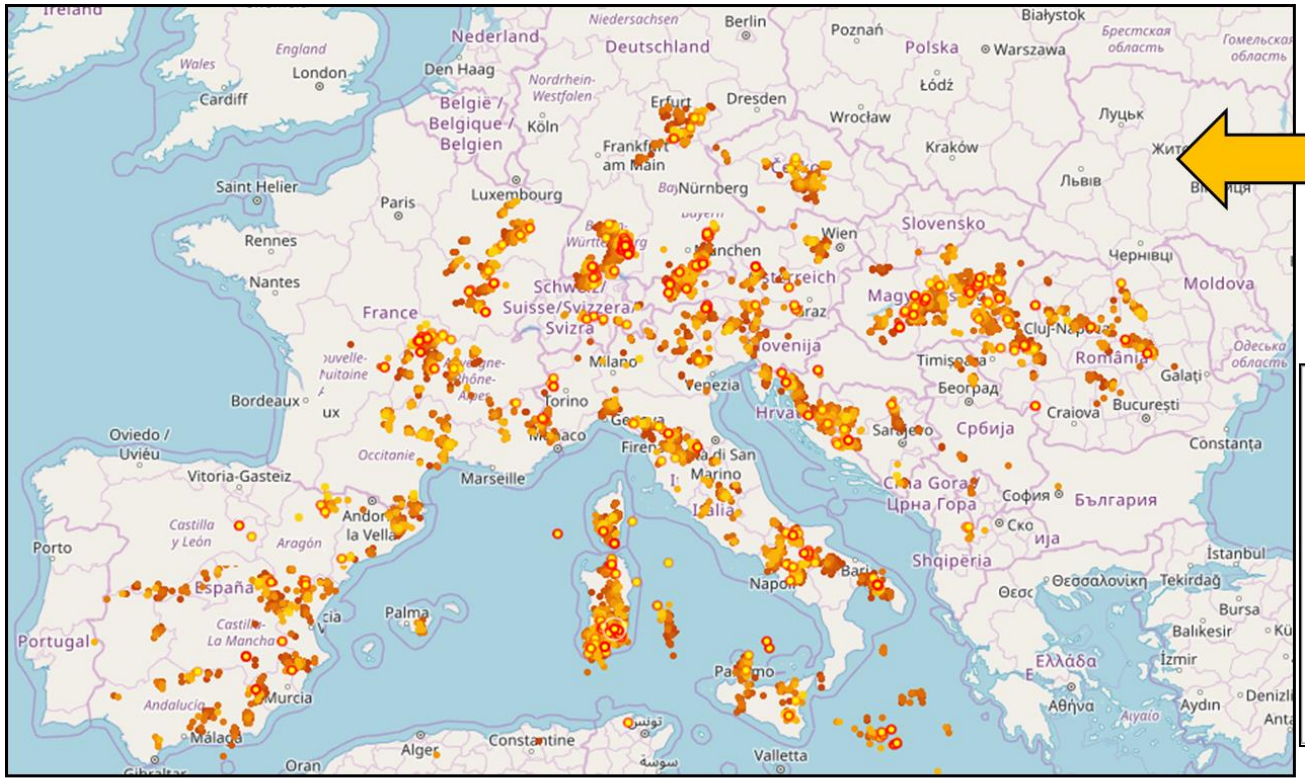
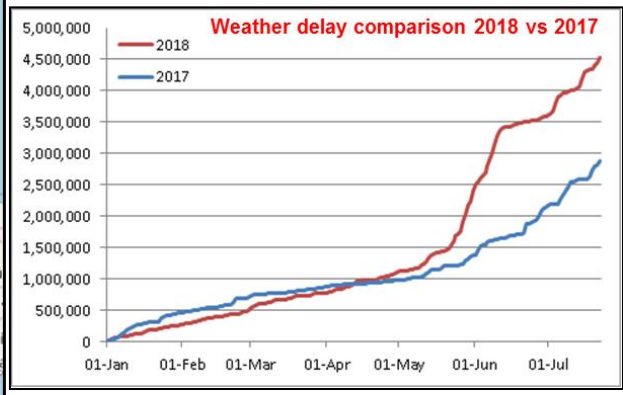
CB's Thursday 23rd August 2018 @ 1400UTC



ATFM delays due to CBs

Marseille ACC:	18,396'
Reims ACC:	2,805'
Karlsruhe UAC:	10,906'
Vienna ACC:	21,850'
Budapest ACC:	3,174'
Bucharest ACC:	2,953'



Thursday	35,760	+ 2.5%	144,919	Weather:	85,759	LFMM	CBs 18,396, staff 6,558 : 25,248
				En Route:	45,484	LOVV	all CBs from early am : 21,850
				Aerodromes:	13,646	EDUU	A.M. 5,170, CBs 10,906 : 19,606

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June 2th 2017: Convective activity

- 105 regulations: 43 with < 1hours notice, 27 <30 minutes.
- London, Brussels, Maastricht, Karlsruhe, Munich, Paris Reims, Vienna, Geneva, Zurich, Barcelona and Madrid.
- 86,150 minutes of Delay.

Exceptional is the new normal.

Delay	Reg	Last Msg
(24)	4	srm
(0)	4	srm
(11)	5	sam
12)	6	sam
(4)	2	srm
23	4	rea
(0)	4	srm
(0)	1	sam
(0)	6	srm
(32)	2	srm
27	3	REA

Delay	E/C/ATA
10	17:15A
23	18:33A
0	16:10A
51	16:09A
8	16:17A
0	16:26A
	16:17A
0	16:16A
0	16:17A
	16:22A
7	16:27A
26	16:23A
22	18:22A
3	16:30A
7	16:49A
10	16:29A
0	16:27A
48	16:30A
48	18:42A
0	16:32A
17	16:41A
23	17:04A
0	16:50A
30	17:01A

Convective Weather Mitigation Measures at Network Level

- Regional convective wx forecasts at D-1, -6hrs, -3hrs to support impact assessment and probability of impacted airspace
- Planning of response scenarios at D-1 taking into account other network constraints
- CDM process to implement best scenario
- Rerouting advice to a/c still to get airborne
- Continued coordination NM-ACCs to manage this capacity reduction and predict return to normal

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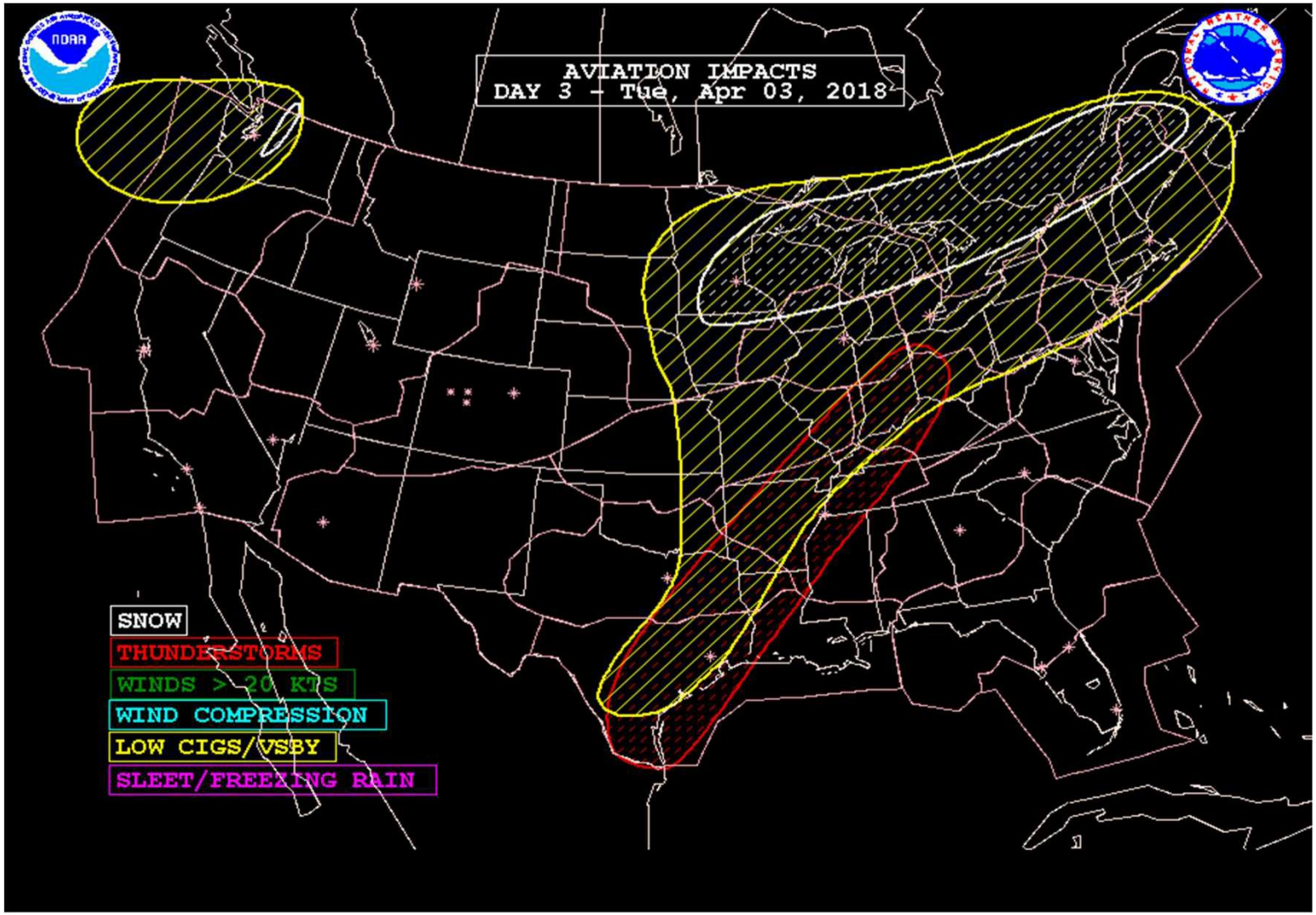
2-4 Day Forecast



Difficulties to be overcome

- No accepted network convective wx forecast, each ACC using own national forecast which can differ from other national forecasts
- ACCs reluctant to plan capacity reduction measures on D-1
- ACCs wait for other ACCs to request flow measures protect them and avoid the delay attributed to them
- Flow measures are kept active after the CB front has moved on to allow for protection against expected backlog
- The combination of convective weather and capacity shortfalls make situation much more complex than US wx mitigation model

Conclusion

- Weather is 2nd largest contributor to delay in Europe, it has to be addressed much better
- FAB/regional cooperation necessary to mitigate convective wx impact
  - NM - DFS-MUAC-NATS 2018 trial ongoing
  - Dedicated priority activity to be ready for 2019
- Learning from US experience
- Eager to understand what else is possible from an ATCO/Pilot perspective