

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

1. Introduction

Since 2018, Eurocontrol and EUMETNET (EMN) have been working on **Cross-border Convection Forecast (CBCF)** product development. The CBCF is a harmonised forecast provided by the official meteorological service providers for each of the participating ANSPs under EMN, supporting Air Traffic Flow Management by highlighting areas of significant convection. It ensures a common understanding of convective weather across national airspaces, enhancing safety and efficiency.

The CBCF production will take place between 30th April and 15th October 2025. The first forecast will be produced on 30th April with validity for 1 st May, while the final forecast will be produced on 14th October and valid for 15th October.

A pre-tactical weather forecast shall be produced at **07:00 UTC, D-1**, valid for the next day.

An update of the pre-tactical forecast shall be produced at **22:00 UTC at D-1 and valid for D-0**.

Each forecast will be an update of the previous forecast (i.e. 2200UTC forecast is an update of the 0700 UTC, D-1 forecast etc.).

The forecast will usually be presented as a summary page depicting the 5-time segments relevant to the forecast validity e.g. 06-09, 09-12, 12-15, 15-18, 18-21 UTC.

If significant changes are detected after the issuance of a product, the EMN MET Coordinator may send an amendment. Significant changes comprise generally the change of probability or extent resulting in **a deviation of two-colour levels** (e.g. orange → purple, red → yellow), or alternatively other significant deviations the forecaster considers necessary to trigger an amendment.

The products should be only amended at the agreed time steps as following:

- D-1 (issued at 07:00 UTC): **Amendment possible at 12:00 UTC**
- D-0 (issued at 22:00 UTC): **Amendment possible at 09:00 UTC**

Amendments are driven by the local MET offices.

All times are summertimes.

An example of CBCF product can be found in Annex 1 and the used risk matrix in Annex 2.

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

The CBCF will be utilised as part of the NMOC Capacity and Weather-based operations, supporting pre-tactical and tactical air traffic flow management and by NMOC MET Specialists. The forecast will assist in mitigating weather-related disruptions by allowing for proactive planning and coordination across affected regions.

2. Development of a Weather desk in NMOC

Legal context and background.

- As stated in article 7 of the NF-IR, the NM shall coordinate the air traffic flow and capacity management and through the central unit for ATFM, coordinate and execute ATFM measures as set out in Annex II.
- Annex II, part B, paragraph 6a states that “the Network Manager shall optimise the overall performance of the EATMN through planning, coordination and implementation of agreed ATFM measures, including....and for adverse weather, through cooperative decision-making”.
- As stated in Strategic Objective 4 from the Network Strategy Plan (Sustainable and optimised Network Operations) the Network Manager shall: Develop, implement and harmonise tools, processes and procedures for Network weather management and avoidance of adverse weather
- **NMB/41** endorsed the NM budget for 2025 including the recruitment of 6 MET Experts.

3. Feedback ASMSG79

3.1 Trial in 2024

The involvement of local ASM actors for the potential contribution to solve Network complexity due to weather condition was nominal, providing information to the involved AMCs about the expected weather conditions and potential measures planned to be adopted. The effectiveness of the ASM actors was quite limited due to no clear objectives expected by the exchange of information as well as not enough preparation before summer. The general feedback was to better organize the ASM involvement for the summer 2025.

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

3.2 ASM contribution for the implementation of NM Scenarios and CDM involved

In the CDM process between NMOC and local ATFCM actors, the proposal was to include in the loop the coordination with local ASM actors to get updated information on the expected allocation plans due to weather evolution. In details the procedures proposed aim to allow NM MILO to contact relevant local AMCs whenever the analysis of the weather conditions at network level identified critical weather conditions in respect of planned activation of areas allocated in EAUP. The relevant AMCs should verify the consistency of the plans with involved military unit, based on the weather information received. This exchange of information could trigger the process for the revision of the initial plans and promote an updated notification (e.g. cancellation/modification). The potential availability of additional airspace could offer opportunity to re-route traffic, assuming weather conditions allow it.

4. MET Specialists in NMOC

From 1st April 2025, MET specialists will start working in NMOC. They will coordinate with local MET offices and EMN all necessary information to prepare and deliver a Network Weather Assessment several times a day. It will be used by NMOC (PRETACT and TACT teams) to mitigate the impact of the weather on some areas/regions of the Network by the possible application of weather scenarios and moving some specific traffic flows.

5. Coordination with MILO for Summer 2025

The following procedures will be applied for summer 2025, up to October 2025. The scope is limited to the daily military activities and are not applicable for large-scale military exercises.

NMOC is looking at improving civil/military operational coordination via NM MILO. NM MILO will receive the Network Weather Assessment for the D-1 or D-0 and will be informed by PRETACT (D-1)/Tact team (D-0) when a Met update indicate major impact on parts of the network.

Trigger for coordination: **Dark Orange, Red or Purple Polygons – indicating a high and a very high-risk area.**

5.1 D-1

The D-1 CBCF is published at 0700 UTC. The MET specialist will produce a full Network weather impact assessment by 0800 UTC. Following this, NM PRETACT will identify which weather scenario could be activated for the next day. NM PRETACT will coordinate with NM MILO. NM MILO will identify which of the most commonly booked military areas, as listed in ANNEX III, could further reduce the ATC capacity within the

FUA OPERATIONS		FUA TEMPORARY INSTRUCTION		Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV		Subject Improve collaboration with AMC on weather management		Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
				TLP Status	Public

problematic ACC sectors and will share with the responsible AMCs, via email, this impact assessment and the referenced CBCF (from 0700 UTC).

NM MILO will analyse all available military mission planning information and will suggest modifications of airspace bookings already available or suggest to consider the availability of airspace to support the Network capacity optimisation. Whatever is the suggestion proposed, the relevant AMCs in coordination with the military users, will take the final decision regarding the airspace reservations (preserving military mission effectiveness).

Upon receipt of a D-1 CBCF 1200 UTC amendment or in case no amendment is received, MET specialist will produce an update D-1 Network weather assessment by 1230 UTC the latest. The coordination process will restart again between NM PRETACT, NM MILO and local AMCs to be finalised before AUP publication at 1400 UTC.

Last iteration of CBCF is published at 2200 UTC. That one is used in the CDM process on D-0.

5.2 D-0

At 0400 UTC and using the previous day 2200 UTC CBCF, MET specialists will produce first early morning Network weather assessment for D-0.

By 0600 UTC at the latest, coordination will take place between Tactical SNOG and MILO. As for D-1, MILO will identify which of the current military airspace bookings agreed at D-1 could affect the activation of agreed weather scenarios, with negative impact on Network capacity.

MILO will share with the relevant AMCs, via email, this impact assessment and the D-1 2200 UTC CBCF.

MILO will analyse all available military mission planning information and will suggest modifications of airspace bookings agreed at D-1 to support the Network capacity optimisation. Whatever is the suggestion proposed, the relevant AMCs, in coordination with the military users, will take the final decision regarding the airspace reservations while preserving military mission effectiveness (whenever feasible).

Upon receipt of any D-0 CBCF amendment at 0900 UTC, they will perform a new assessment, and the coordination process will start again.

5.3 MILO/AMC Coordination

On D-1 and D-0 MILO coordinates with AMCs. In every communication with AMC via emails, MILO should clearly identify in the title and in the email text for which day this coordination process refers. Sending an email can be followed by a quick phone call to inform the relevant AMCs and trigger action.

FUA OPERATIONS		FUA TEMPORARY INSTRUCTION		Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV		Subject Improve collaboration with AMC on weather management		Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
				TLP Status	Public

AMCs will coordinate the MILO proposals with the relevant MIL units. MIL units should coordinate with their local MET actors on getting updated weather information for the concerned day(s) and time frame(s) and check the feasibility of their mission related to the weather. The final decision remains a national responsibility and will be promptly communicated by the relevant AMCs to MILO.

The agreement on MILO proposals or any change of airspace booking should be communicated via UUP. Promulgation of UUP **is very often critical for the optimisation of Network performance on bad weather days.**

6. Feedback

Feedback from AMCs to NM MILO via Email.

NM MILO should log every coordination that took place and resulting actions. In case no action is taken by AMC in modifying or cancelling military airspace bookings, MILO will monitor UUPs for short notice airspace bookings updates of the concerned areas and log them in CADF electronic logbook. This will be used for ASMSG and any other meeting reporting.

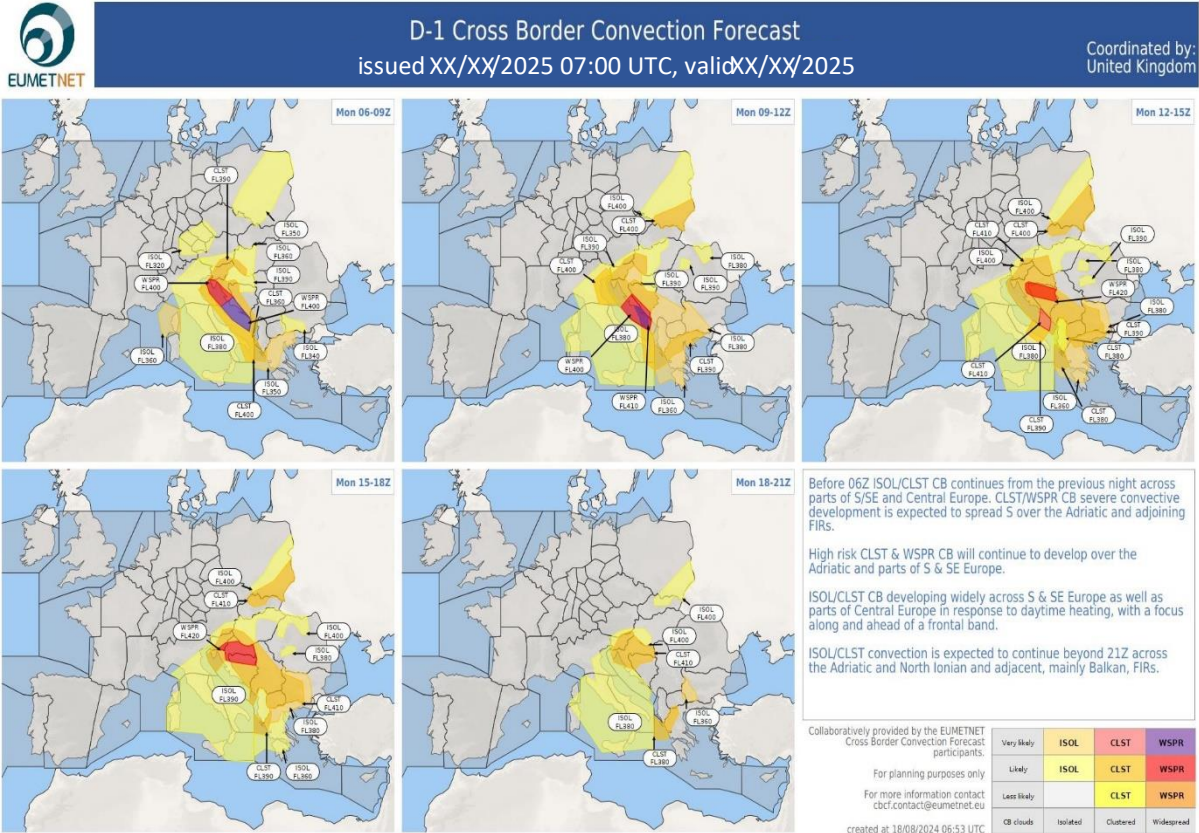
As NM MILO are not using DNP, internal feedback on coordination and result will be sent to NM.OM@EUROCONTROL.INT , NM.OPA@EUROCONTROL.INT , NM.DOM@EUROCONTROL.INT , NM.SNOC@EUROCONTROL.INT and FABRICE.VANLIEFFERINGE@EUROCONTROL.INT in copy.

—

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

– **Annex I – CBCF Example**

Forecast Example



– **Annex II – CBCF Specifications**

The applied Risk Matrix is used to classify forecast convection (which is defined as cumulonimbus (CB) clouds) taking the expected extent and probability of occurrence into account.

Resultingly, 4 classes of risk (purple, red, orange and yellow) can be derived. Assuming that a larger extent of the convective scenario causes more complexity in the ATM, each colour has sub-grades to differentiate the 8 potential forecast severities.

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

Probability of occurrence ↑	Very likely >70%	ISOL	CLST	WSPR
	Likely	ISOL	CLST	WSPR
	Less likely < 40%		CLST	WSPR
	Occurrence of CB clouds	Isolated Individual CBs, orographic and daytime bound, large gaps between cells	Clustered multi-cells, chaotic, volatile dynamics, generally less gaps between cells	Widespread Numerous or organized, few or no significant gaps between cells
Extent of convective scenario →				

Confidence Definition

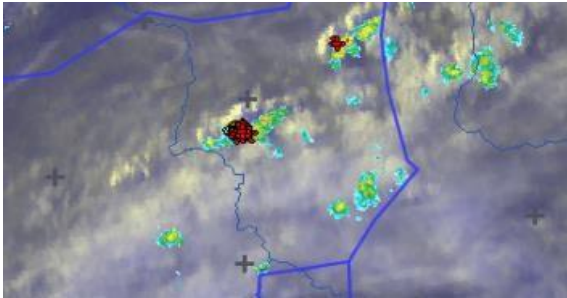
- The upper row (**Very likely**) of the matrix is used there is a high confidence in the development of convection. The impact on airspace capacity is usually tangible. The likelihood for this scenario is **above 70%**.
- The middle row (**Likely**) indicates that there is moderate uncertainty/probability that convection will develop as expected in the area highlighted, but the information should be provided to the users. There is an unofficial relation to TEMPO in TAF production.
- The lower row (**Less likely**) is reserved for unlikely events, e.g. major discrepancies between weather models. The likelihood is **below 40%**.
- **Very unlikely (< 20%)** events and unlikely isolated convection are excluded from the product

It is important to use all classes and colours of the risk matrix if applicable so that the users can properly prepare for the expected severe weather!

Spatial Coverage of Convection and / or Severity

The spatial coverage of convection and its “type” are important to the user because the different temporal and spatial extents of convective phenomena affect the airspace capacity and delay in different ways.

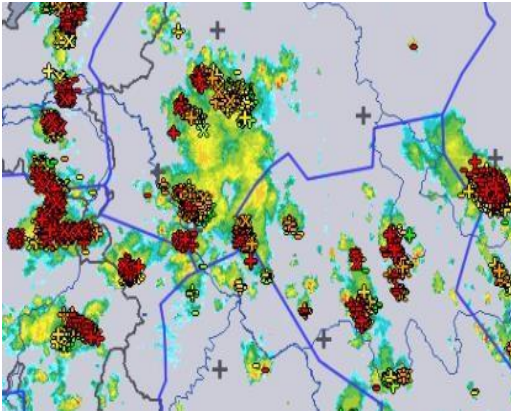
FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public



Isolated

Isolated CBs are the typical summertime convection phenomenon. Diurnal heating and limited convective ingredients (moisture, instability, shear) facilitate the development of individual CBs, usually with a defined lifecycle. Mountainous areas are prone to initiate convection (popcorn pattern).

Clustered



The next level of convective extent is defined as **clustered CBs**. Supported by greater instability, more potential energy, and lifting, the CB situation becomes more chaotic and dynamic. Cells may change in severity, grow to clusters and become less daytime bound. Additional shear allows CBs to sustain and create daughter cells. The en-route avoidance of these situations is more complicated, with differing and random requests by pilots to the controller, hence the impact on the network is often higher. This stage is related to ICAO's OCNL CBs but not strictly bound to the 50-75% criterion.

FUA OPERATIONS	FUA TEMPORARY INSTRUCTION	Doc. ID: FTI/25-007	
Issued on: 12/06/2025 By : VLI/YILIEV	Subject Improve collaboration with AMC on weather management	Validity From: 12/06/2025 To: 15/10/2025	NOP Portal: Yes Briefing: No
		TLP Status	Public

ANNEX III

List of the major areas eligible for coordination between MILO and AMCs to support the implementation of bad weather scenarios for summer 2025

Responsible AMC	Daily training areas
Belgium	TRA NORTH and TRA SOUTH
France	R 108, D 54, TRA 200, CBA 1
Germany	TRA LAUTER, TRA ALLGAEU, TRA WESER
Italy	LIR49E/F
Netherlands	TRA12 and TRA15
Switzerland	TRAs LST20x/30x/40x/50x/60x
United Kingdom	Danger area SOUTHERN COMPLEX

Head of NMOC