

# Aviation Meteorological Forecaster Competency 2

## Forecast Aeronautical Meteorological Phenomena and Parameters

### TAF

**AMF AC 2.1.1, 2.1.2, 2.1.4, 2.1.5, 2.1.6, 2.1.7,  
2.2, 1.2 and 1.3**

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# AIM OF THIS PRESENTATION

## At the end of this presentation you will be able to:

- Know the **format** of a TAF forecast product in accordance with latest ICAO Annex 3, WMO-No.49, regional and national formats, codes and technical regulations on content, accuracy and timeliness (**AMF AC 2.2**).
- Know the **significant weather changes (SPECI criteria)** used in the **writing of TAFs**
- **Monitor** the current weather conditions (**AMF AC 1.2**) in order to **amend** TAFs based on documented significant weather (SPECI) criteria (**AMF AC 1.3**)



# TAF FORMAT

TAF FAGG 230600Z 2307/2318 19005KT 9999 SCT015 TX20/2312ZTN18/2307Z BECMG 2307/2309 BKN009 FM231000  
13015KT 9999 BKN005 PROB30 TEMPO 2312/2315 3000 -RA BKN002=

## 1. TAF

Message indicator, Indicates that the Following is a TAF

## 2. ICAO LOCATOR - FAGG

## 3. Time of issue – 230600Z

TAF's valid for less than 12 hours are issued every 3 hours.

TAF's valid for more than 12 hours are issued every 6 hours.

## 4. Time of validity – 2307/2318

Validity period is per regional air navigation agreement but must be between 6 and 30 hours inclusive.

## 5. Forecast (Body of TAF) – Dominating weather expected at start and for validity of the TAF - 19005KT 9999 SCT015

## 6. Temperature forecast - TX20/2312ZTN18/2307Z

## 7. Forecast change groups (BECMG and FM) and conditional change groups (PROB30 TEMPO, PROB40 TEMPO AND TEMPO)

Significant deviations from the dominant weather stated at the start of the TAF: **BECMG** 2307/2309 BKN009  
**FM**231000 13015KT 9999 BKN005 **PROB30 TEMPO** 2312/2315 3000 -RA BKN002 =



# 1. TAF INDICATOR (AMF AC 2.2)

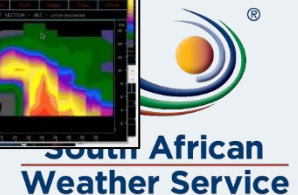
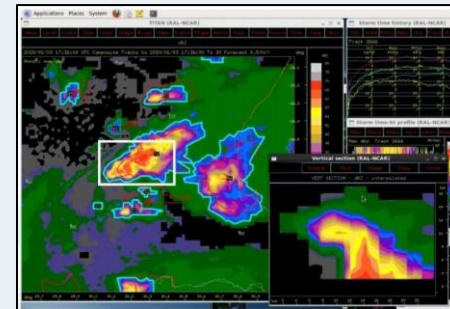
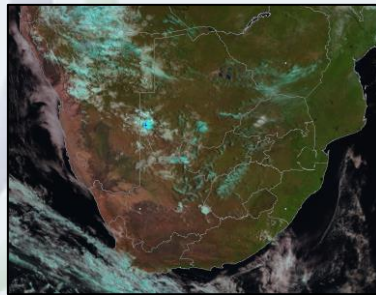
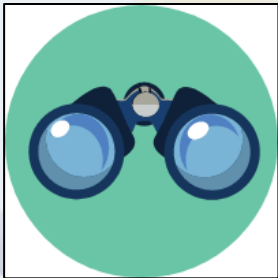
**TAF** FAGG 230600Z 2307/2318 19005KT 9999 SCT015 TX20/2312ZTN18/2307Z BECMG 2307/2309 BKN009 FM231000 13015KT 9999 BKN005 PROB30 TEMPO 2312/2315 3000 -RA BKN002 =

## 1. TAF

Message indicator, Indicates that the Following is a TAF

**TAF** – Terminal Aerodrome Forecast

**Amended forecast (TAF AMD)** issued – when expected or observed conditions meet significant amendment criteria for the specified forecast element, expected to persist; there is sufficient, reliable information on which the forecaster to base their judgment.



- Meteorological offices preparing TAF shall keep the forecasts under continuous review (AMF AC 1.2) and when necessary, shall issue amendments promptly (AMF AC 1.3).
- **Corrected forecast (TAF COR) issued** – when the forecaster has made a coding or typing **error** and corrections need to be made to the TAF
- **Cancelled forecast (TAF CNL) issued** – When TAF's cannot be kept under continuous review (no observations). Remember to always phone the observer to find out why you have not received their observation. It is recommended that other sources of information be used in the absence of a full METAR, such as Sat/Radar.



# 2. ICAO LOCATORS

**TAF FAGG 230600Z 2307/2318 19005KT 9999 SCT015 TX20/2312ZTN18/2307Z BECMG 2307/2309 BKN009 FM231000 13015KT 9999 BKN005 PROB30 TEMPO 2312/2315 3000 -RA BKN002 =**

## 1. TAF

Message indicator, Indicates that the Following is a TAF

## 2. ICAO LOCATOR - FAGG

- Identified by four-letter ICAO station indicator
- A full list of ICAO locators can be found on the aviation website as well as the practical course notes

TAF AMD FAGG....

TAF AMD FAGG....



# 3. TIME OF ISSUE

## 3. Time of issue – 230600Z

TAF's valid for less than 12 hours are issued every 3 hours.

TAF's valid for more than 12 hours are issued every 6 hours.

- Consist of a six-digit group (**ddhhhh**)
- First two digits representing the day of the month issued (**19<sup>th</sup>**) (dd)
- Last four digits represent time of issue in UTC/Z time (**0600Z**) (hhhh)

For Example (highlighted in **blue**):

TAF AMD FAGG **190600Z**

TAF COR FAGG **191200Z**



# 4. VALIDITY PERIOD

## 4. Time of validity – 2307/2318

Validity period is per regional air navigation agreement but must be between 6 and 30 hours inclusive.

- The period of validity of a routine TAF should be not less than 6 hours nor more than 30 hours;
- The validity period should be determined by regional air navigation agreement.
  - Routine short TAF valid for less than 12 hours (6-11 hours) should be issued every 3 hours.
  - Routine long TAF valid for 24 to 30 hours should be issued every 6 hours.
- Consist of eight-digit group (**ddhh/ddhh**)
- First two digits representing the day of the month issued (**23hh/23hh**) (dd)
- Last two digits represent time of validity in UTC/Z time (**2307/2318**) (hh/hh)

For Example (highlighted in purple):

TAF AMD FAGG 230600Z **2312/2318** ....

TAF COR FAGG 231200Z **2312/2318** ....





# 5. FORECAST (BODY OF THE TAF):

5. Forecast (Body of TAF) – Dominating weather expected at start and for validity of the TAF - 19005KT 9999 SCT015

- Has the same format as that of a METAR
- This is the dominating weather that is expected at the start and for validity of the TAF.
- **Surface wind (AMF AC 2.1.2) – 19005KT**
- **Surface visibility (AMF AC 2.1.5) – 9999**
- **Weather and clouds (amount and ceiling) (AMF AC 2.1.4, 2.1.5 and 2.1.6) – SCT015**

For Example (highlighted in **brown**):

**TAF FAGG 230600Z 2307/2318 19005KT 9999 SCT015....**



# 6. TEMPERATURE FORECAST (AMF AC 2.1.1)

## 6. Temperature forecast - TX20/2312ZTN18/2307Z

- When forecast temperatures are included in accordance with regional air navigation agreement, the maximum (TX) and minimum temperatures (TN) expected to occur during the period of validity of the TAF should be given, together with their corresponding date and time of occurrence.
- Temperature is important because it effects air density and consequently the length of the runway needed for take-off.

For Example (highlighted in **gold**):

- TAF FAGG 230600Z 2307/2318 19005KT 9999 SCT015 TX23/1912ZTN18/1918Z....
- TAF AMD FAGG 230600Z 2307/2318 19005KT 9999 SCT015 TX23/1912ZTN18/1918Z....



# 7. FORECAST CHANGE GROUP - BECMG

## 7. Forecast change groups (BECMG and FM) and conditional change groups (PROB30 TEMPO, PROB40 TEMPO AND TEMPO)

Significant deviations from the dominant weather stated at the start of the TAF: **BECMG** 2307/2309 BKN009 **FM**231000 13015KT 9999 BKN005 **PROB30 TEMPO** 2312/2315 3000 -RA BKN002 =

- The change indicator “**BECMG**” and the associated time group should be used to describe gradual permanent changes where the meteorological conditions are expected to reach or pass-through specified threshold values at a regular or irregular rate and at an unspecified time during the time period.
- The time period should normally **not exceed 2 hours** but in any case, should not exceed 4 hours (In South Africa 2 hours is used)  
For Example (highlighted in **black**):
  - **TAF** **FAGG** **230600Z** **2307/2318** **19005KT** **9999** **SCT015** **TX20/2312ZTN18/2307Z** **BECMG** **2307/2309 BKN009**....
  - e.g. **BECMG 2307/2309 BKN009**: Condition is expected to change gradually between 07Z and 09Z to broken cloud at 0900ft and this condition will prevail until any further change is expected and this will be indicated by another set of change group/s.



# 7. FORECAST CHANGE GROUP - FM

## 7. Forecast change groups (BECMG and FM) and conditional change groups (PROB30 TEMPO, PROB40 TEMPO AND TEMPO)

Significant deviations from the dominant weather stated at the start of the TAF: **BECMG** 2307/2309 BKN009 **FM**231000 13015KT 9999 BKN005 **PROB30 TEMPO** 2312/2315 3000 -RA BKN002 =

- FM - Where one set of prevailing weather conditions is expected to change significantly and completely to a different set of conditions, the period of validity should be subdivided into self-contained periods using the abbreviation “FM” followed immediately by a four-figure time group in whole hours and minutes UTC
- FM - is used to indicate a rapid expected change, usually within less than one hour. When FM is used the TAF starts all over again and all groups are repeated whether they have changed or not.

For Example (highlighted in **black**):

**TAF** **FAGG** **230600Z** **2307/2318** **19005KT** **9999** **SCT015** **TX20/2312Z****TN18/2307Z**  
**BECMG** 2307/2309 BKN009 **FM**231000 13015KT 9999 BKN005....



# 7. FORECAST CONDITIONAL CHANGE GROUP - PROB

## 7. Forecast change groups (BECMG and FM) and conditional change groups (PROB30 TEMPO, PROB40 TEMPO AND TEMPO)

Significant deviations from the dominant weather stated at the start of the TAF: **BECMG** 2307/2309 BKN009 **FM**231000 13015KT 9999 BKN005 **PROB30 TEMPO** 2312/2315 3000 -RA BKN002 =

- The probability of a forecast of temporary fluctuations in meteorological conditions should be indicated, as necessary, by use of the abbreviation TEMPO – Example change groups PROB & TEMPO shall always be used together e.g., PROB40 TEMPO 1915/1918
  - **PROB30 TEMPO**
  - **PROB40 TEMPO** or
  - **TEMPO**
- A probability of an alternative value or change of less than 30 per cent should not be indicated.



# 7. FORECAST CONDITIONAL CHANGE GROUP - PROB

## 7. Forecast change groups (BECMG and FM) and conditional change groups (PROB30 TEMPO, PROB40 TEMPO AND TEMPO)

Significant deviations from the dominant weather stated at the start of the TAF: **BECMG** 2307/2309 BKN009 **FM**231000 13015KT 9999 BKN005 **PROB30 TEMPO** 2312/2315 3000 -RA BKN002 =

- A probability of an alternative value or change of 50 per cent or more, for aviation purposes should not be considered a probability but instead should be indicated, as necessary, by use of the change indicators “BECMG” or “TEMPO”.
- The number of change and probability groups should be kept to a minimum and should not normally exceed five groups.



# 7. FORECAST CONDITIONAL CHANGE GROUP - TEMPO

- “TEMPO” should be used to describe expected frequent or infrequent temporary fluctuations in the meteorological conditions which reach or pass specified threshold values and last for a period of less than one hour in each instance and, in the aggregate, cover less than one-half of the forecast period during which the fluctuations are expected to occur.
- If the temporary fluctuation is expected to last one hour or longer, the change group “BECMG” should be used.
- It is advisable that all forecasted convective precipitation be put under TEMPO (Showers and thundershowers) since it is temporary, not lasting for more than an hour at a time.
- It is advisable that forecasted stratiform precipitation from layered cloud be put after BECMG or FM as this continuous for more than an hour - example rain resulting from Nimbostratus cloud.



# Significant changes in surface wind and/or direction (AMF AC 2.1.2) in a TAF Forecast

- *The prevailing wind direction should be forecast, when it is not possible to forecast a prevailing surface wind direction due to its expected variability, for example, during light wind conditions (less than 6 km/h (3 kt)) or thunderstorms, the forecast wind direction should be indicated as variable using “VRB”.*
- *When the wind is forecast to be less than 2 km/h (1 kt), the forecast wind speed should be indicated as **calm**.*
- *When the forecast maximum speed (**gust**) exceeds the forecast mean wind speed by 20 km/h (10 kt) or more, the forecast maximum wind speed should be indicated.*
- *Surface wind direction and speed is important to be accurately forecast because it determines which runway is to be used.*

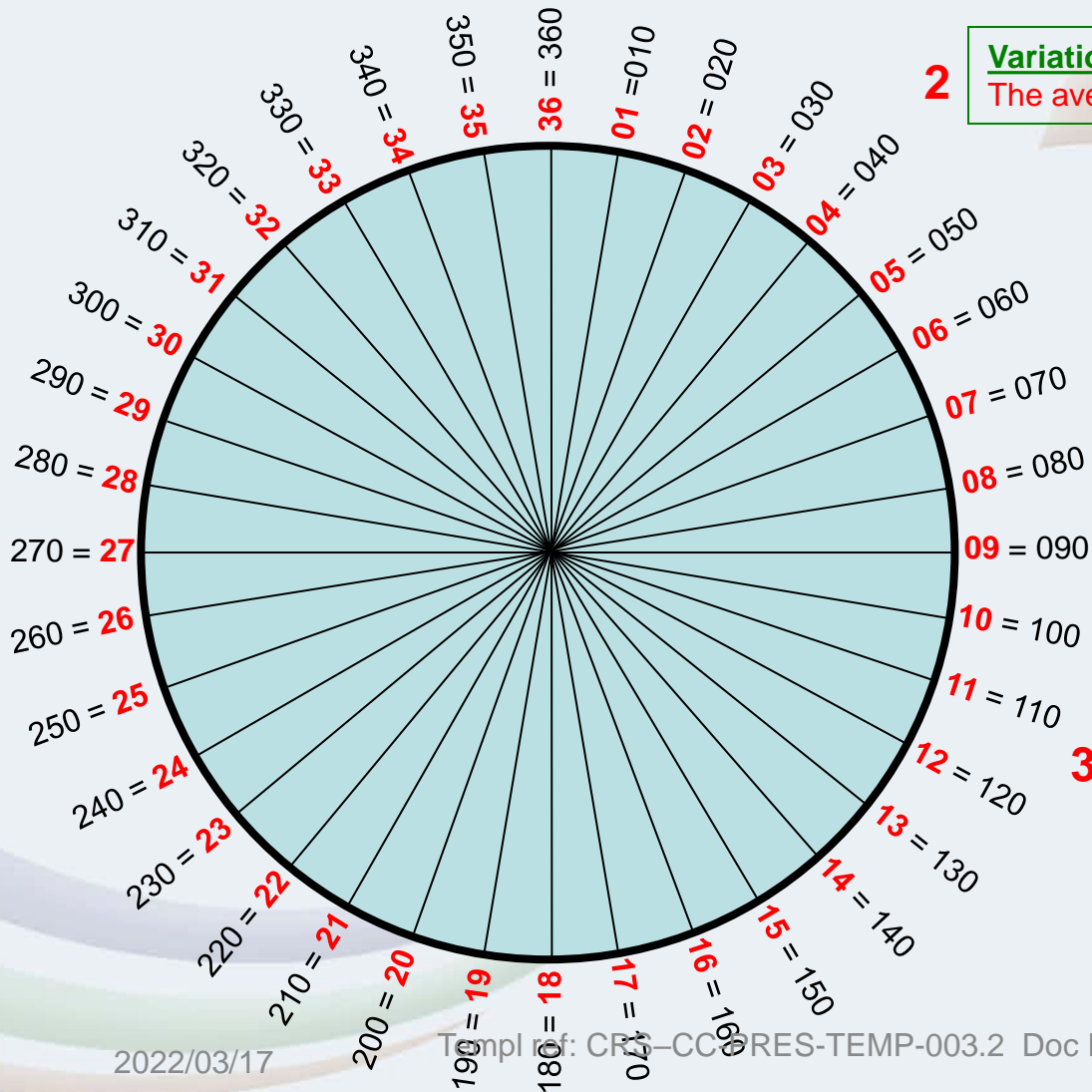




# Significant changes in surface wind direction and/or speed to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF

1 Ave wind speed change of  $\geq 10$  kts

2 Variation between gusts and ave wind speed is  $\geq 10$  kts  
The ave wind speed before and or after being  $\geq 15$  kts



3 Ave wind direction change of  $\geq 60^\circ$   
The ave wind speed before and or after being  $\geq 10$



# Documented Local agreements

- Threshold values can be set and documented by the Met Authority in consultations with ATS authority/operators and then agreed upon.
- **Threshold values can relate to:**
  - forecasted changes in surface wind and/or direction through values of operational significance
  - forecasted changes in surface wind and/or direction that require a change in runway
  - Forecasted changes in runway tailwind/crosswind component through values representative of operating limits of typical aircraft used at the airport.



# When encountering a significant change in wind speed and or direction, the following needs to be done

- When this significant change in wind speed and or direction is expected within your TAF validity; **indicate the significant change in wind speed and or direction in a BECMG or FROM group in a TAF forecast**
- Monitor (AMF AC 1.2) for significant changes in wind speed and or direction and **amend your issued TAF**

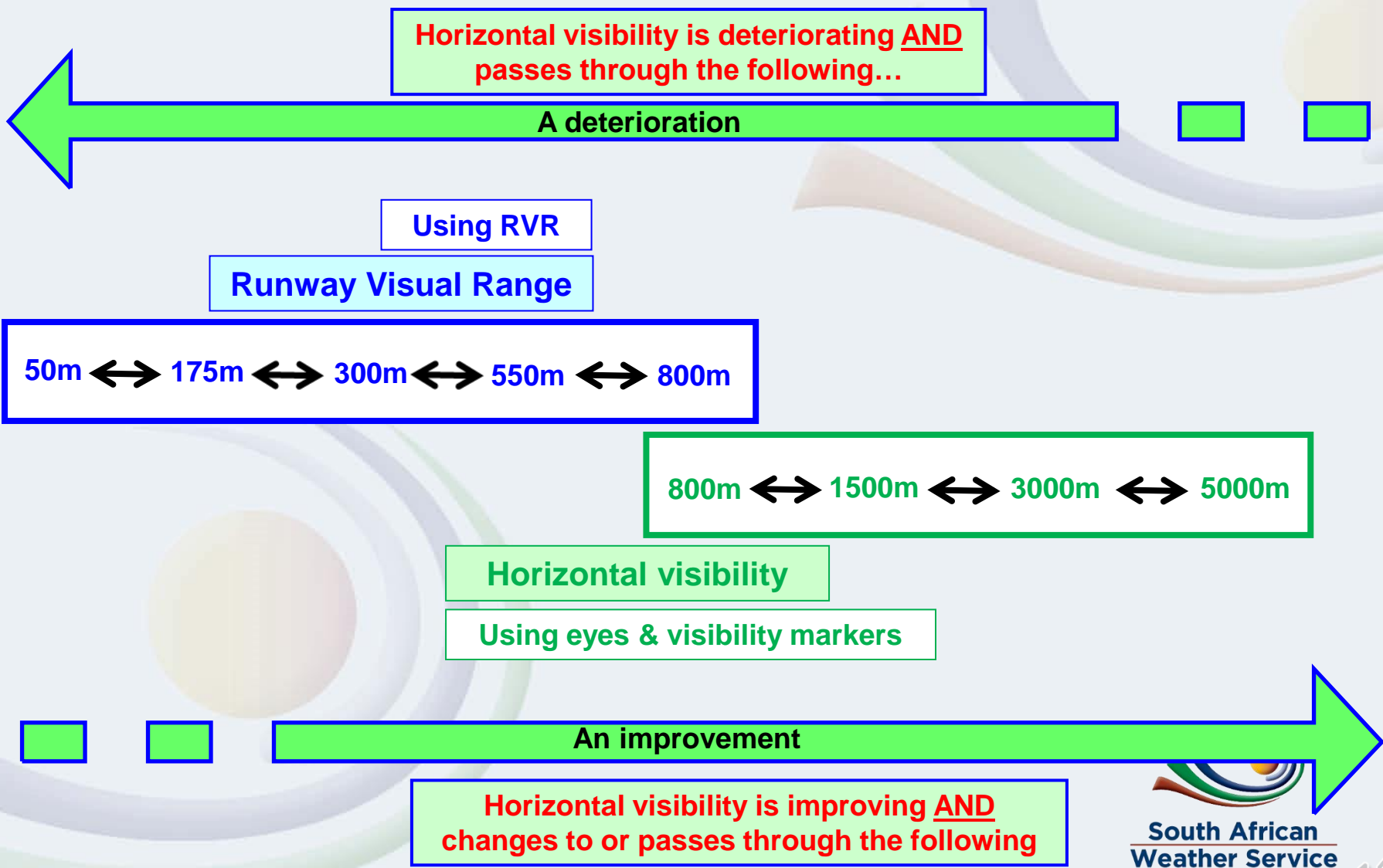


# Significant changes in surface visibility to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF

- The prevailing visibility should be forecast. When visibility is forecast to vary in different directions, the lowest visibility should be forecast.
- When the visibility is forecast < than 800 m, it should be expressed in steps of 50 m;
- when it is forecast to be  $\geq$  800 m but < than 5 km, in steps of 100 m;
- $\geq$  5 km but < than 10 km, in 1-kilometer steps;
- and when it is forecast to be  $\geq$  10 km, it should be expressed as 9999, except when CAVOK conditions are forecast.
- Any reduction in visibility below 5000m is a hazard to aviation



**Significant changes in surface horizontal visibility to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF**



# Examples of TAF containing significant horizontal visibility changes

## ➤ Criteria 1

Visibility deterioration

TAF FAOR 211000Z 2112/2218 18010KT 9999 SCT045 FEW045CB TX23/2212Z  
TN09/2203Z PROB30 TEMPO 2115/2118 3000 TSRA=

TAF FAPE 211000Z 2112/2218 23014KT 5000 RA BKN009 TX16/2112Z TN09/2203Z BECMG  
2116/2118 15010KT 2000 +RA BKN003=

## ➤ Criteria 2

Visibility improvement

TAF FAPE 211000Z 2112/2218 18014KT 2000 +RA BKN003 TX16/2112Z TN09/2203Z BECMG  
2116/2118 12010KT 5000 RA BKN010=



# When encountering significant changes in visibility; the following needs to be done

- When these significant changes in visibility are expected within your TAF validity; indicate the significant change in visibility and weather in a BECMG/FROM, PROB30 TEMPO, PROB40 TEMPO OR TEMPO group in a TAF forecast
- N.B. If due to rain lasting for more than an hour, use BECMG/FM, if showery lasting for less than an hour use PROB30 TEMPO, PROB40 TEMPO OR TEMPO
- Monitor (AMF AC 1.2) for significant changes in visibility and amend your issued TAF



**Significant changes in weather phenomena to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF**

- One or more, up to a maximum of three, of the following weather phenomena or combinations thereof, together with their characteristics and, where appropriate, intensity, should be forecast if they are expected to occur at the aerodrome





**Significant changes in weather phenomena to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF**

- marked by the advance
- of a “wall of dust”
- up to 3000m high

**Present weather – (the start or cessation of)**

including showers

Moderate Heavy precipitation

with or without precipitation

FC TS

- coarse sand particles
- up to a max of 20–30m

- a sudden increase in wind speed
- of at least 16 kts
- with a new speed of at least 22 kts
- and lasting for at least 1 minute

- raised by the wind
- to more than 2m agl

- raised by the wind
- to less than 2m agl

FZRA FZFG

SQ

DS

SS

BLDU BLSA BLSN

DRDU DRSA DRSN

Surface temperature must be < 0 °C for precipitation or fog to freeze on contact with the surface.

# Examples of TAF containing significant weather phenomena changes

Example:

TAF FAOR 211000Z 2112/2218 34010KT 9999 SCT045 FEW045CB TX27/2212Z  
TN15/2203Z PROB30 TEMPO 2115/2118 TS=



# When encountering significant changes in weather phenomena; the following needs to be done

- When these significant changes in visibility are expected within your TAF validity; indicate the significant change in weather phenomena in a BECMG/FROM, PROB30 TEMPO, PROB40 TEMPO OR TEMPO group in a TAF forecast



# Cloud amount and height in TAF

## When writing TAF forecasts the following need to be kept in mind.

- **Cloud amount** in a TAF is forecast using the abbreviations:
  - FEW (Few cloud expected, 1 - 2 oktas);
  - SCT (Scattered cloud expected, 3 - 4 oktas);
  - BKN (Broken cloud expected, 5 - 7 oktas);
  - OVC (Overcast cloud expected, 8 oktas).
- **Cloud type** is only forecast if it TCU or Cumulonimbus (CB) cloud.
- **CAVOK** - Ceiling And Visibility OK, indicating
  - no cloud below 5,000 ft (1,500 m) or
  - no cloud below the highest minimum sector altitude and
  - no Cumulonimbus (CB) or towering Cumulus (TCU) at any level
  - a horizontal visibility of at least 10 km or more
- Cloud must be forecast from lowest to highest cloud base
- Remember low cloud bases and CB,s are hazards to aviation



# Examples of cloud height and CAVOK

The following is the correct use of cloud height in a TAF

TAF FAUP 211000Z 2112/2121 34010KT 9999 FEW030CB SCT045 TX32/2112Z  
TN23/2121Z PROB30 TEMPO 2115/2119 TS=

- The following is the incorrect use of cloud height in a TAF

TAF FAUP 211000Z 2112/2121 34010KT 9999 SCT045 FEW030CB TX32/2112Z TN23/2121Z  
PROB30 TEMPO 2115/2119 TS=

- The following is the correct use of CAVOK in a TAF

TAF FAUP 211000Z 2112/2121 34010KT CAVOK TX32/2112Z TN23/2121Z PROB30 TEMPO  
2115/2119 FEW050CB=

- The following is the incorrect use of CAVOK in a TAF

TAF FAUP 211000Z 2112/2121 34010KT 9999 CAVOK TX32/2112Z TN23/2121Z PROB30  
TEMPO 2115/2119 FEW050CB=

In this case the red highlighted part should be CAVOK

TAF FAUP 211000Z 2112/2121 34010KT 9999 BKN080 TX32/2112Z TN23/2121Z PROB30  
TEMPO 2115/2119 FEW050CB=

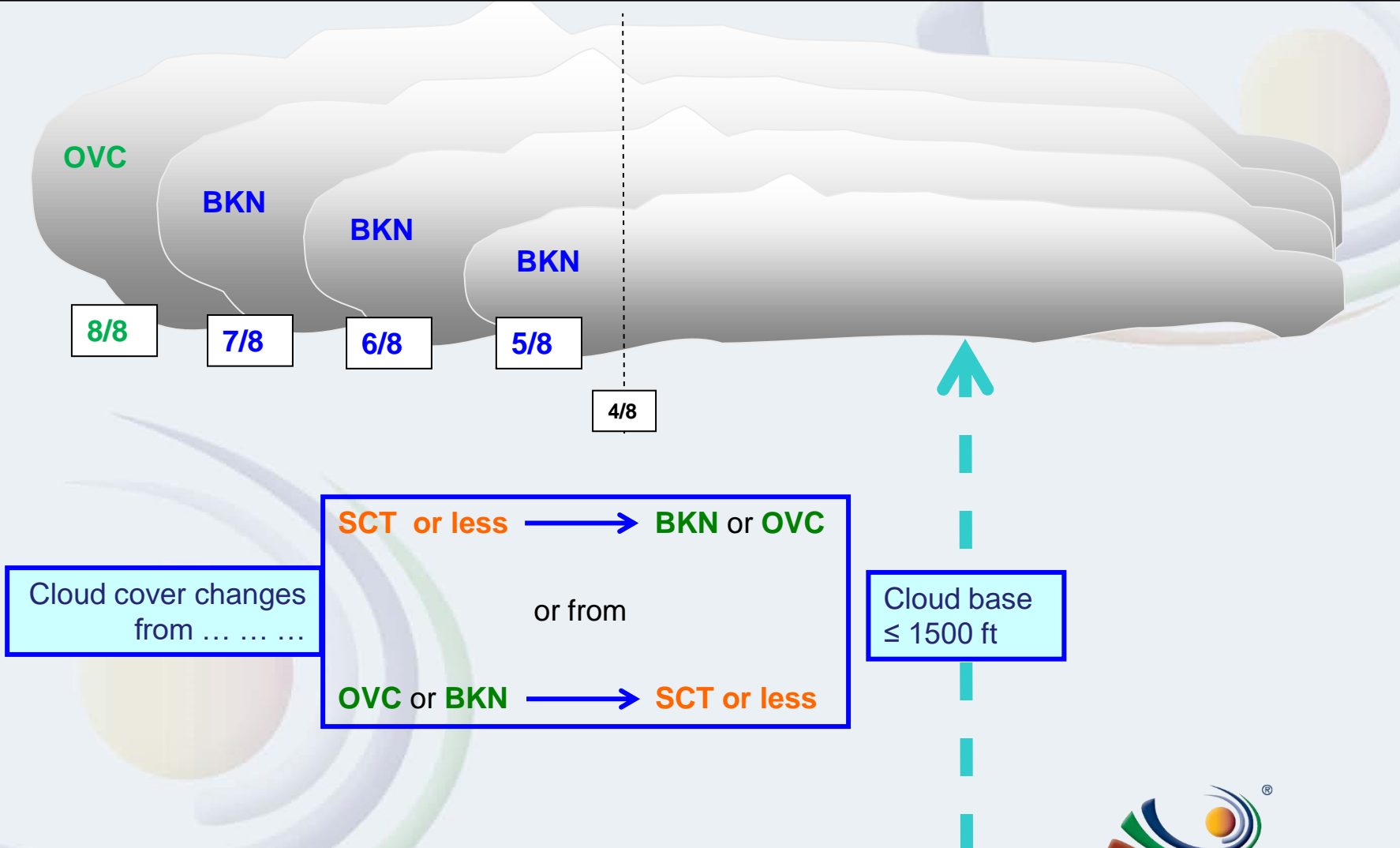


# Continued

- When several layers of cloud are forecast, their amount and height of base should be included in the following order according to the 1, 3, 5 rule
- **1<sup>st</sup> group:** The lowest layer (mass) of any amount to be forecast as:  
FEW, SCT, BKN or OVC
- **2<sup>nd</sup> group:** The next layer (mass) covering  $\geq 3/8$ , to be forecast as:  
SCT, BKN or OVC
- **3<sup>rd</sup> group:** The next higher layer (mass) covering  $\geq 5/8$ , to be forecast as:  
BKN or OVC



**Significant changes in cloud cover or amount to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF**



# Examples of TAF containing significant changes in cloud amount

- Cloud must be  $\leq$  1500ft:

The following are significant changes in cloud amount within a TAF forecast:

TAF FALE 211000Z 2112/2121 20010KT 9999 BKN008 TX32/2112Z TN23/2121Z BECMG SCT008=  
TAF FALE 211000Z 2112/2121 20010KT 9999 SCT015 TX32/2112Z TN23/2121Z BECMG BKN015=  
TAF FALE 211000Z 2112/2121 20010KT 9999 OVC005 TX32/2112Z TN23/2121Z BECMG FEW005=  
TAF FALE 211000Z 2112/2121 20010KT 9999 BKN008 TX32/2112Z TN23/2121Z BECMG SCT008=  
TAF FALE 211000Z 2112/2121 20010KT 9999 SCT010 TX32/2112Z TN23/2121Z BECMG OVC010=

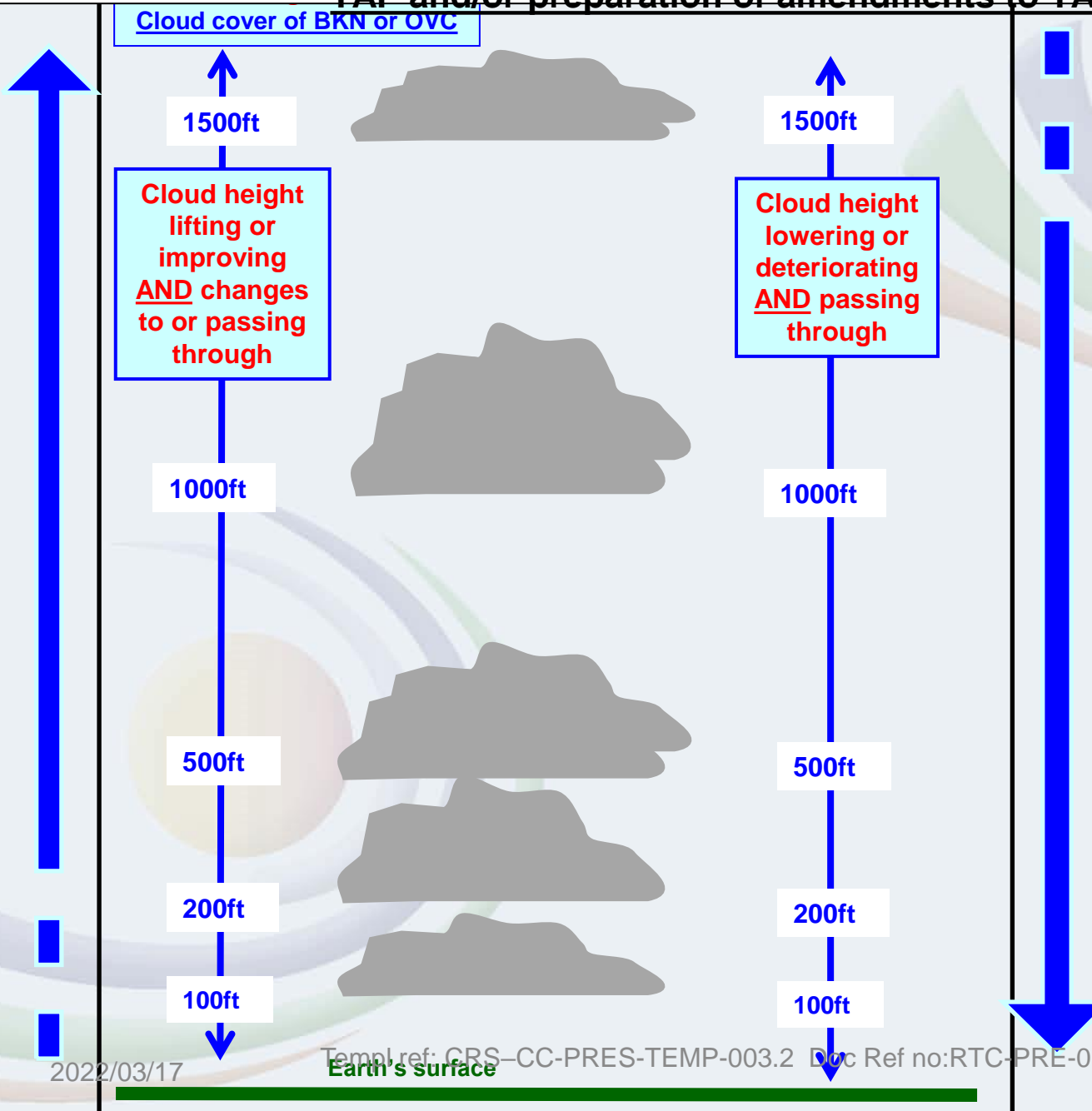
The following are not significant changes in cloud amount within a TAF forecast:

TAF FAPE 211000Z 2112/2121 20010KT 9999 BKN020 TX32/2112Z TN23/2121Z BECMG SCT020=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 BKN010 TX32/2112Z TN23/2121Z BECMG OVC010=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 OVC020 TX32/2112Z TN23/2121Z BECMG SCT020=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 SCT015 TX32/2112Z TN23/2121Z BECMG FEW015=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 SCT005 TX32/2112Z TN23/2121Z BECMG FEW005=





**Significant changes in cloud height to be included using change groups (BECMG+FM) in a TAF and/or preparation of amendments to TAF**



# Examples of TAF containing significant changes in cloud height

- Cloud must be <= 1500ft:

The following are significant changes in cloud height within a TAF forecast:

TAF FALE 211000Z 2112/2121 20010KT 9999 BKN001 TX32/2112Z TN23/2121Z BECMG BKN005=  
TAF FALE 211000Z 2112/2121 20010KT 9999 BKN002 TX32/2112Z TN23/2121Z BECMG BKN007=  
TAF FALE 211000Z 2112/2121 20010KT 9999 OVC010 TX32/2112Z TN23/2121Z BECMG OVC015=  
TAF FALE 211000Z 2112/2121 20010KT 9999 OVC009 TX32/2112Z TN23/2121Z BECMG OVC005=  
TAF FALE 211000Z 2112/2121 20010KT 9999 BKN015 TX32/2112Z TN23/2121Z BECMG BKN001=

The following are not significant changes in cloud height within a TAF forecast:

TAF FAPE 211000Z 2112/2121 20010KT 9999 OVC020 TX32/2112Z TN23/2121Z BECMG OVC025=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 BKN006 TX32/2112Z TN23/2121Z BECMG BKN008=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 OVC003 TX32/2112Z TN23/2121Z BECMG OVC004=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 BKN009 TX32/2112Z TN23/2121Z BECMG BKN006=  
TAF FAPE 211000Z 2112/2121 20010KT 9999 OVC012 TX32/2112Z TN23/2121Z BECMG OVC014=



# When encountering significant changes in cloud (amount and height); the following needs to be done

- When these significant changes in cloud amount and height are expected within your TAF validity; indicate the significant change in cloud amount and height in a BECMG/FROM, PROB30 TEMPO, PROB40 TEMPO OR TEMPO group in a TAF forecast
- When no cloud is expected below 5,000 ft (1,500 m) or no cloud below the highest minimum sector altitude and no Cumulonimbus (CB) or towering Cumulus (TCU) at any level and a horizontal visibility of at least 10 km or more – CAVOK in TAF

# Significant changes in Temperature

- Significant changes in forecasted temperature become important during the take-off phase of the flight since the temperature determines the length of the runway needed during the take-off phase of the flight.
- For this reason, the take-off forecast needs to be amended when significant changes in temperature are expected.
- When considering a **TAF** which is used for planning a flight, significant changes in temperature are not necessary as the take-off data is used when the flight is undertaken – thus no action is required

TEMP  
An  
increase  
of  $\geq 2^{\circ}\text{C}$   
at  
any given  
point in  
time



# WRITING OF A TAF FORECAST

- **There are 3 important points to consider when writing a TAF**
  - Accuracy is important, since the TAF is used in flight planning, when to depart, what to expect en-route and for landing and if alternate airports are necessary.
  - Terminal aerodrome forecasts should be written as simply and straight forward as possible - should be clear and unambiguous.
  - Don't issue a TAF which is more than 5 lines long.
- **The body of the TAF:**
  - Check the current weather :- METAR, Satellite, Radar, Synopses/Synoptic chart. Check the history of METARs for the aerodrome to see what has been happening to the weather.
  - Evaluate the NWP and choose the best NWP model depending on how the NWP handles the weather situation with regards to the actual data.
  - **Start the body of the TAF with the wind, visibility and weather that will be expected to be most prevalent at the start of the TAF and for the duration of the TAF. For this reason, always start with a good visibility as this will be the most dominant over a 24-to-30-hour period.**



# CONTINUED

- **Significant changes (Improvement in weather or deterioration in weather changes)**

- Use the significant weather change criteria (SPECI) outlined in this presentation when considering significant changes to the weather stated in the body of the TAF. Use the NWP to determine the time at which these significant changes will occur (improvement or deterioration) with regards to the following elements.

- **Wind:** When forecasting wind, always relate it to the weather system and pressure field from which it was derived as to understand what is causing the wind. Use VRB for wind direction only if the speed is between 1 and 3KT, or if associated with TS e.g., TEMPO VRB20G30KT 2000 TSRA. If the wind speed is greater than 3KT and not associated with TS, a wind direction other than VRB must be given.
  - **Wind:** Always use BECMG to forecast a significant wind change. The only time you put a wind in PROB30, PROB40 or TEMPO is when this wind is caused by the outflow of a thunderstorm or wind gusts greater than 10KT of forecast wind speed in the TAF is expected.
  - **Visibility** (reduction or improvement): If reduction of visibility is forecast due to showery precipitation from convective cloud this must be included under PROB30, PROB40 or TEMPO because showers or convective precipitation are temporary by nature.
  - **Visibility** (reduction or improvement): If reduction of visibility is forecast due to continuous precipitation from BKN/OVC layered stratiform cloud BECMG must be used.
  - **Cloud:** Use BECMG to forecast significant changes in cloud. Can have temporary changes (TEMPO) The only 2 cloud types that are explicitly mentioned in a TAF is TCU and CB. Cloud base height and CAVOK – any cloud base above 5000 ft a.g.l or the minimum sector altitude which is not a TCU or CB is CAVOK.
- The TAF should focus on the most significant weather changes and PROB30/40 TEMPO durations should be as short and accurate as possible.
  - Follow the TAF rules as indicated by WMO.
  - In FM, you repeat all the weather elements in the correct order as if you were starting the TAF from scratch, irrespective if the elements have changed or not..
  - Don't use 040V340 or VC (vicinity) in TAF – use is restricted to observations.
  - Avoid using FEW clouds in a TAF as this is operationally not significant (unless it is a CB or TCU).
  - After writing your TAF, read it through and ask yourself whether a pilot will understand and be able to make decisions (safety, time and financial) based on the information you provided



# References

- Practical Course Notes
- ICAO Annex 3, Latest addition
- DOC 8896

