



# IVAO



## CENTRAL AMERICA

*Meteorología:*

*Weather reports*

# METAR:

(Meteorological Aerodrome Report)

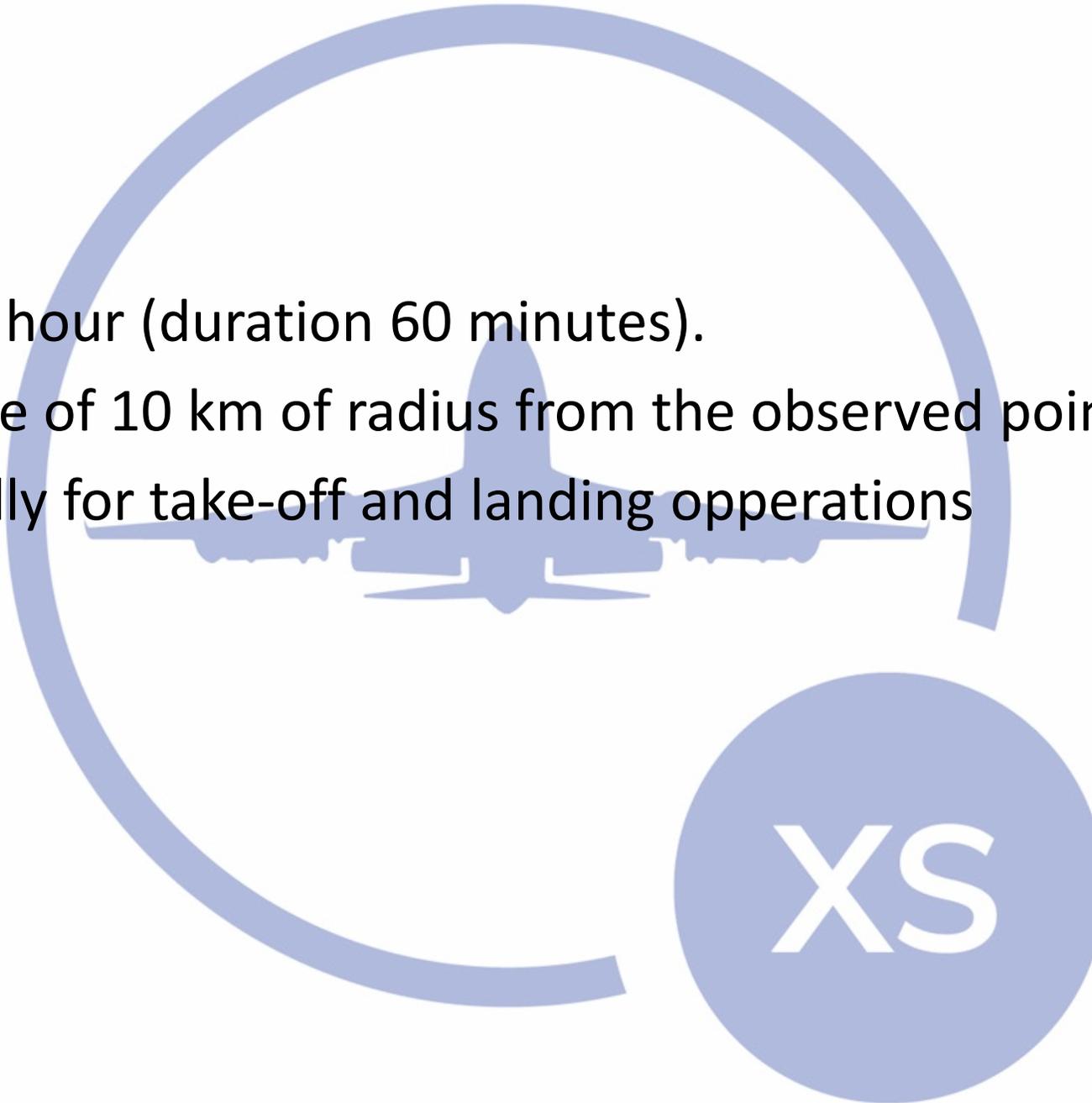
Aeródromo meteorological report.

Un METAR is a coded message, that indicates the atmospheric conditions observed in an specific moment. The obtained data of the meteorological station are located in specific aeródromos. This message can be updated every the hour.



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- Made every hour (duration 60 minutes).
- It has a range of 10 km of radius from the observed point
- Used specially for take-off and landing operations

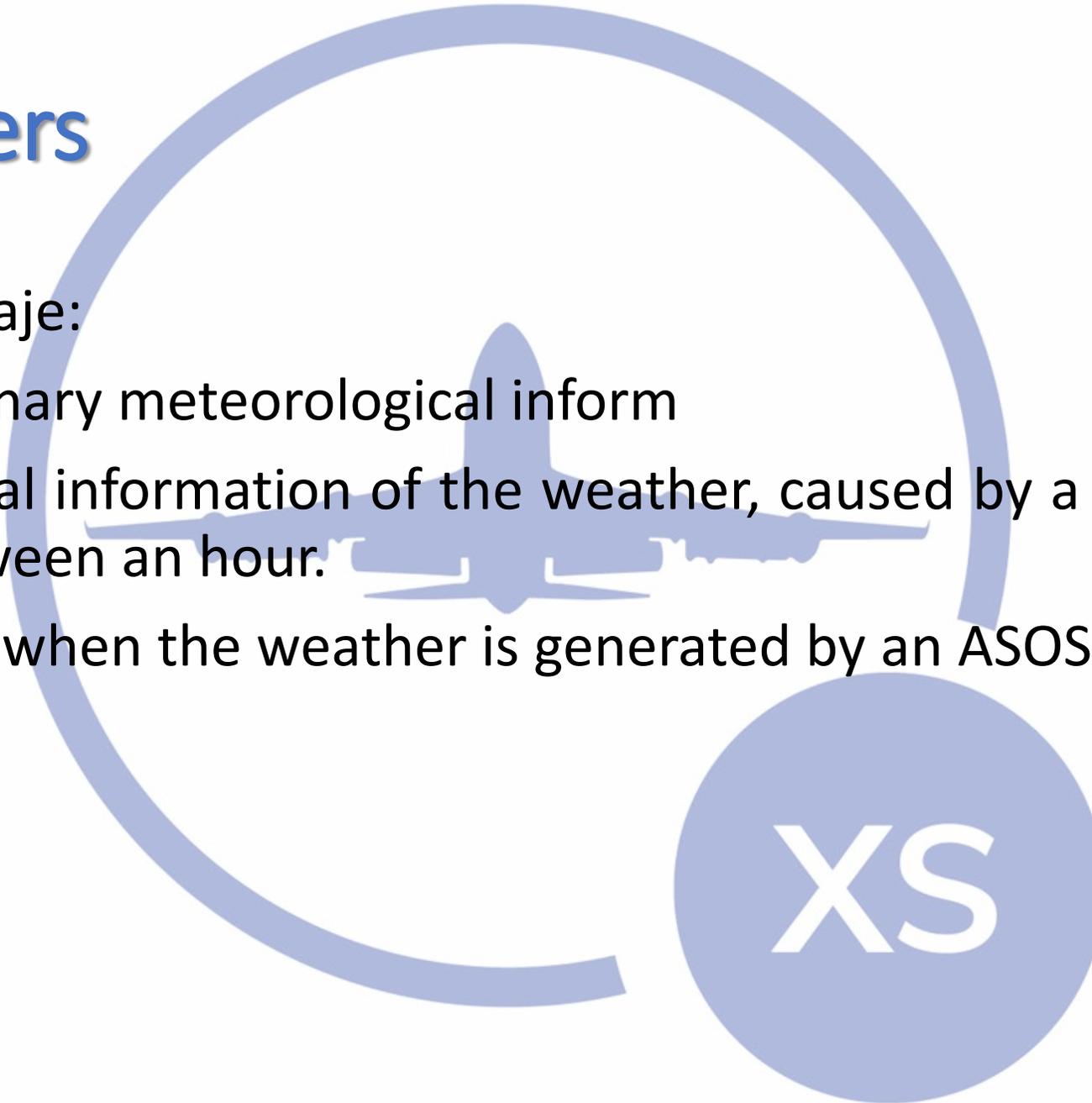


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# Parameters

Tipo de mensaje:

- METAR: rutinary meteorological inform
- SPECI: special information of the weather, caused by a change on the METAR between an hour.
- AUTO: used when the weather is generated by an ASOS/ AWOS.



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# Identification Group:

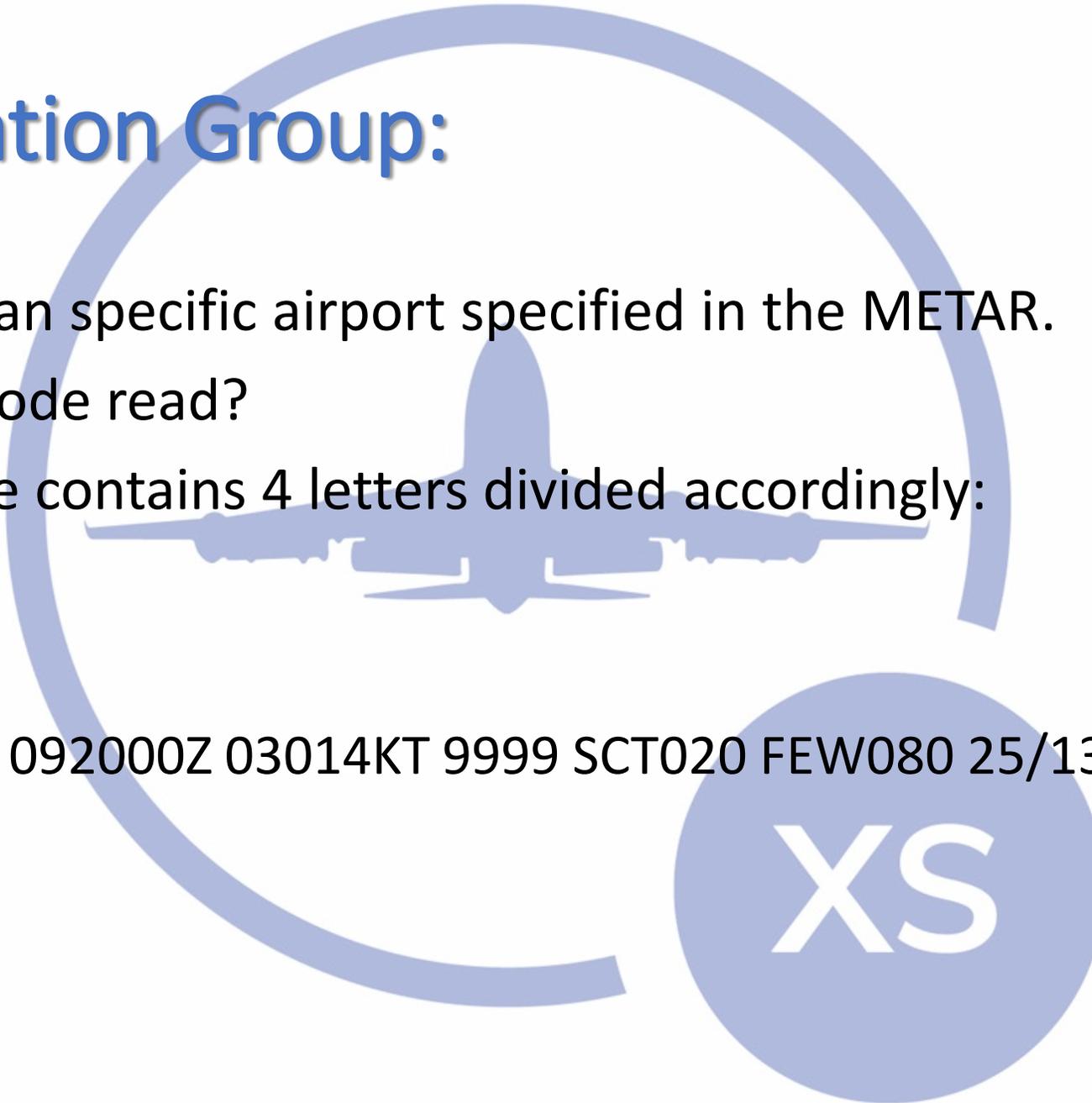
OACI code of an specific airport specified in the METAR.

¿How is this code read?

The OACI code contains 4 letters divided accordingly:

Example:

METAR: **MGGT** 092000Z 03014KT 9999 SCT020 FEW080 25/13 Q1021 A3015



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- The first letter M represents the region where its located the airport, in this case M is the Mesoamerica region.
- The second letter represents the country where the airport is located.
- The third and fourth letter represent the name of the airport or department of the country where the airport is located.

Example:

**MGGT**

**M** Mesoamerica

**G** Guatemala

**GT** Guatemala City

**MPTO**

**M** Mesoamérica

**P** Panama

**TO** Tocumen

**MRLB**

**M** Mesoamérica

**R** Costa Rica

**LB** Liberia

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# Day and time of publication

Here is expressed the day and time UTC of the emission of the METAR on the format DDHHMM as example 092000Z indicates, this METAR was created the day 09 of the month (current) at 20:00 Z or 20:00 UTC. UTC comes from the meridian of greenwich and the term is Universal Time coordinated. Every important inform is made on the UTC time.

METAR: MGGT 092000Z 03014KT 9999 SCT020 FEW080 25/13 Q1021 A3015

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# Direction and wind intensity

METAR: MGGT 092000Z **03014KT** 9999 SCT020 FEW080 25/13 Q1021 A3015

This group provides us the direction and intensity of the wind. The first 3 numbers indicate the direction it's coming from and the last 2 indicate the intensity expressed in Knots.

- If somehow the wind is expressed as 00000KT (the wind is calm).
- The direction of the wind is where it's blowing from so it's indicated as from and not where it's going
- If the wind is indicated as **VRB08kts** the wind direction will be very light and will be expressed as VRB.

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- If the wind direction increases by 60°, the wind direction will be shown as V as variable example **080V150**.
- Its quiet common to find gusts on certain airports. This will be pressed as G “Gust” followed by the intensity in knots (kts). Example: **02010G16KT**.
- Often timer we encounter wind changes in speed and direction this is
- Is commonly known as windshear and this will be expressed on the METAR as: **18008KT WS**

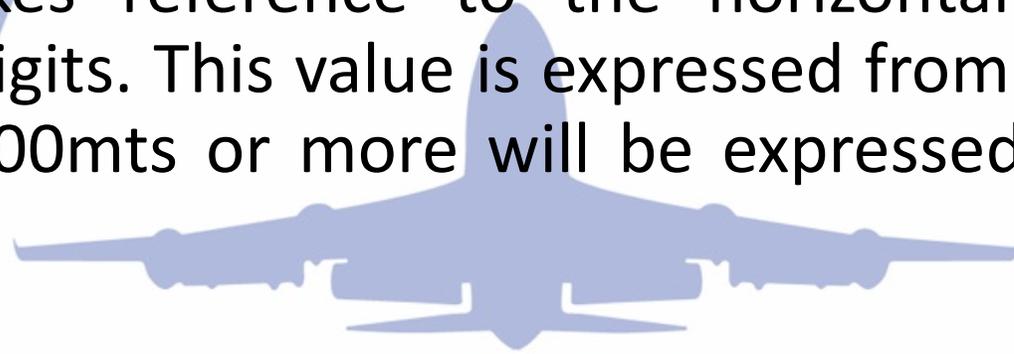


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# Horizontal Visibility

This group makes reference to the horizontal visibility in meters expressed in 4 digits. This value is expressed from up to 9'000mts from a visibility of 10'000mts or more will be expressed as 9'999, those are read as:

- a) 9'000: 9km
- b) 9'999: 10km or more



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# Actual time

This group will indicate the actual weather and will display 5 main characteristics

- Intensity
- Descriptor
- Precipitation (if there is one and which type will be indicated at the beginning)
- Obscuration
- Others



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**TAF** KPIT 091730Z 0918/1024 15005KT 5SM HZ FEW020 WS010/31022KT  
 FM01930 30015G25KT 3SM SHRA OVC015  
 TEMPO 0920/0922 1/2SM +TSRA OVC008CB  
 FM100100 27008KT 5SM SHRA BKN020 OVC040  
 PROB30 1004/1007 1SM -RA BR  
 FM101015 18005KT 6SM -SHRA OVC020  
 BECMG 1013/1015 P6SM NSW SKC

**Note:** Users are cautioned to confirm **DATE** and **TIME** of the TAF. For example FM100000 is 0000Z on the **10th**. Do not confuse with **1000Z!**

**METAR** KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB  
 18/16 A2992 RMK SLP045 T01820159

Forecast	Explanation	Report
<b>TAF</b>	Message type: <u>TAF</u> : routine or <u>TAF AMD</u> : amended forecast; <u>METAR</u> : hourly; <u>SPECI</u> : special or <u>TESTM</u> : noncommissioned ASOS report	<b>METAR</b>
<b>KPIT</b>	ICAO location indicator	<b>KPIT</b>
<b>091730Z</b>	Issuance time: ALL times in UTC " <u>Z</u> ", 2-digit date, 4-digit time	<b>091955Z</b>
<b>0918/1024</b>	Valid period: Either 24 hours or 30 hours. The first two digits of EACH four-digit number indicate the date of the valid period, the final two digits indicate the time (valid from 18Z on the 9th to 24Z on the 10th).  In U.S. <b>METAR</b> : <u>COR</u> rected ob; or <u>AUTO</u> mated ob for automated report with no human intervention; omitted when observer logs on.	<b>COR</b>
<b>15005KT</b>	Wind: 3-digit true-north direction, nearest 10 degrees (or <u>VaRi</u> aBle); next 2–3 digits for speed and unit, <u>KT</u> (KMH or MPS); as needed, <u>C</u> ust and maximum speed; 00000KT for calm; for <b>METAR</b> , if direction varies 60 degrees or more, <u>V</u> ariability appended, e.g., 180 <u>V</u> 260	<b>22015G25KT</b>
<b>5SM</b>	Prevailing visibility: In U.S., <u>S</u> tatute <u>M</u> iles and fractions; above 6 miles in <b>TAF</b> <u>P</u> lus <u>6SM</u> . (Or, 4-digit minimum visibility in meters and as required, lowest value with direction.)  Runway Visual Range: <u>R</u> ; 2-digit runway designator <u>L</u> eft, <u>C</u> enter, or <u>R</u> ight as needed; " <u>/</u> "; <u>M</u> inus or <u>P</u> lus in U.S., 4-digit value, <u>F</u> ee <u>T</u> in U.S. (usually meters elsewhere); 4-digit value <u>V</u> ariability, 4-digit value (and tendency <u>D</u> own, <u>U</u> p, or <u>N</u> o change)	<b>3/4SM</b>  <b>R28L/2600FT</b>
<b>HZ</b>	Significant present, forecast and recent weather: See table (Fig 7-1-22)	<b>TSRA</b>
<b>FEW020</b>	Cloud amount, height and type: <u>S</u> Ky <u>C</u> lear 0/8, <u>F</u> EW >0/8-2/8, <u>S</u> Ca <u>T</u> tered 3/8-4/8, <u>B</u> ro <u>K</u> e <u>N</u> 5/8-7/8, <u>O</u> Ver <u>C</u> ast 8/8; 3-digit height in hundreds of feet; <u>T</u> owering <u>C</u> Umulus or <u>C</u> umulonim <u>B</u> us in <b>METAR</b> ; in <b>TAF</b> , only <u>C</u> B. <u>V</u> ertical <u>V</u> isibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In automated <b>METAR</b> reports only, <u>C</u> Lea <u>R</u> for "clear below 12,000 feet."  Temperature: Degrees Celsius; first 2 digits, temperature " <u>/</u> " last 2 digits, dewpoint temperature; <u>M</u> inus for below zero, e.g., M06  Altimeter setting: Indicator and 4 digits; in U.S., <u>A</u> : inches and hundredths; ( <u>Q</u> : hectoPascals, e.g., Q1013)	<b>OVC010CB</b>  <b>18/16</b>  <b>A2992</b>
<b>WS010/31022KT</b>	In U.S. <b>TAF</b> , nonconvective low-level (<2,000 feet) <u>W</u> ind <u>S</u> hear; 3-digit height (hundreds of feet); " <u>/</u> "; 3-digit wind direction and 2–3 digit wind speed above the indicated height, and unit, <u>KT</u>	

Forecast	Explanation	Report
	In <b>METAR</b> , <b>ReMarK</b> indicator and remarks. For example: <u>S</u> ea_ <u>L</u> evel_ <u>P</u> ressure in hectoPascals and tenths, as shown: 1004.5 hPa; <u>T</u> emp/dewpoint in tenths °C, as shown: temp. 18.2°C, dewpoint 15.9°C	<b>RMK SLP045</b> <b>T01820159</b>
<b>FM091930</b>	<b>FroM</b> : Changes are expected at: 2-digit date, 2-digit hour, and 2-digit minute <b>beginning</b> time: indicates significant change. Each FM starts on a new line, indented 5 spaces	
<b>TEMPO</b> <b>0920/0922</b>	<b>TEMPO</b> rary: Changes expected for <1 hour and in total, < half of the period between the 2-digit date and 2-digit hour <b>beginning</b> , and 2-digit date and 2-digit hour <b>ending</b> time	
<b>PROB30</b> <b>1004/1007</b>	<b>PROB</b> ability and 2-digit percent (30 or 40): Probable condition in the period between the 2-digit date and 2-digit hour <b>beginning</b> time, and the 2-digit date and 2-digit hour <b>ending</b> time	
<b>BECMG</b> <b>1013/1015</b>	<b>BEC</b> o <b>Mi</b> n <b>G</b> : Change expected in the period between the 2-digit date and 2-digit hour <b>beginning</b> time, and the 2-digit date and 2-digit hour <b>ending</b> time	

**Table of Significant Present, Forecast and Recent Weather – Grouped in categories and used in the order listed below; or as needed in TAF, No Significant Weather**

**QUALIFIERS**

**Intensity or Proximity**

“-” = Light      **No sign** = Moderate      “+” = Heavy

“**VC**” = Vicinity, but not at aerodrome. In the U.S. **METAR**, 5 to 10 SM from the point of observation. In the U.S. **TAF**, 5 to 10 SM from the center of the runway complex. Elsewhere, within 8000m.

**Descriptor**

**BC** Patches      **BL** Blowing      **DR** Drifting      **FZ** Freezing  
**MI** Shallow      **PR** Partial      **SH** Showers      **TS** Thunderstorm

**WEATHER PHENOMENA**

**Precipitation**

**DZ** Drizzle      **GR** Hail      **GS** Small hail or snow pellets  
**IC** Ice crystals      **PL** Ice pellets      **RA** Rain      **SG** Snow grains  
**SN** Snow      **UP** Unknown precipitation in automated observations

**Obscuration**

**BR** Mist (>5/8SM)      **DU** Widespread dust      **FG** Fog (<5/8SM)      **FU** Smoke  
**HZ** Haze      **PY** Spray      **SA** Sand      **VA** Volcanic ash

**Other**

**DS** Dust storm      **FC** Funnel cloud      **+FC** Tornado or waterspout  
**PO** Well-developed dust or sand whirls      **SQ** Squall      **SS** Sandstorm

- Explanations in parentheses “( )” indicate different worldwide practices.
- Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility.
- NWS **TAFs** exclude **BECMG** groups and temperature forecasts, NWS **TAFs** do not use **PROB** in the first 9 hours of a TAF; NWS **METARs** exclude trend forecasts. U.S. Military **TAFs** include Turbulence and Icing groups.

# Sky coverage

**Table 9-10.** Sky cover. Oktas=eighths of sky covered.

Sky Cover (oktas)	Sym- bol	Name	Abbr.	Sky Cover (tenths)
0	○	Sky Clear	SKC	0
1	◐	Few* Clouds	FEW*	1
2	◑			2 to 3
3	◒	Scattered	SCT	4
4	◓			5
5	◔	Broken	BKN	6
6	◕			7 to 8
7	◖			9
8	●	Overcast	OVC	10
(9)	⊗	Sky Obscured		un- known
(/)	◌	Not Measured		un- known

\* "Few" is used for (0 oktas) < coverage ≤ (2 oktas).

To describe the cloud coverage METARS use 3 digits to express height in thousands of feet, hundreds of feet.

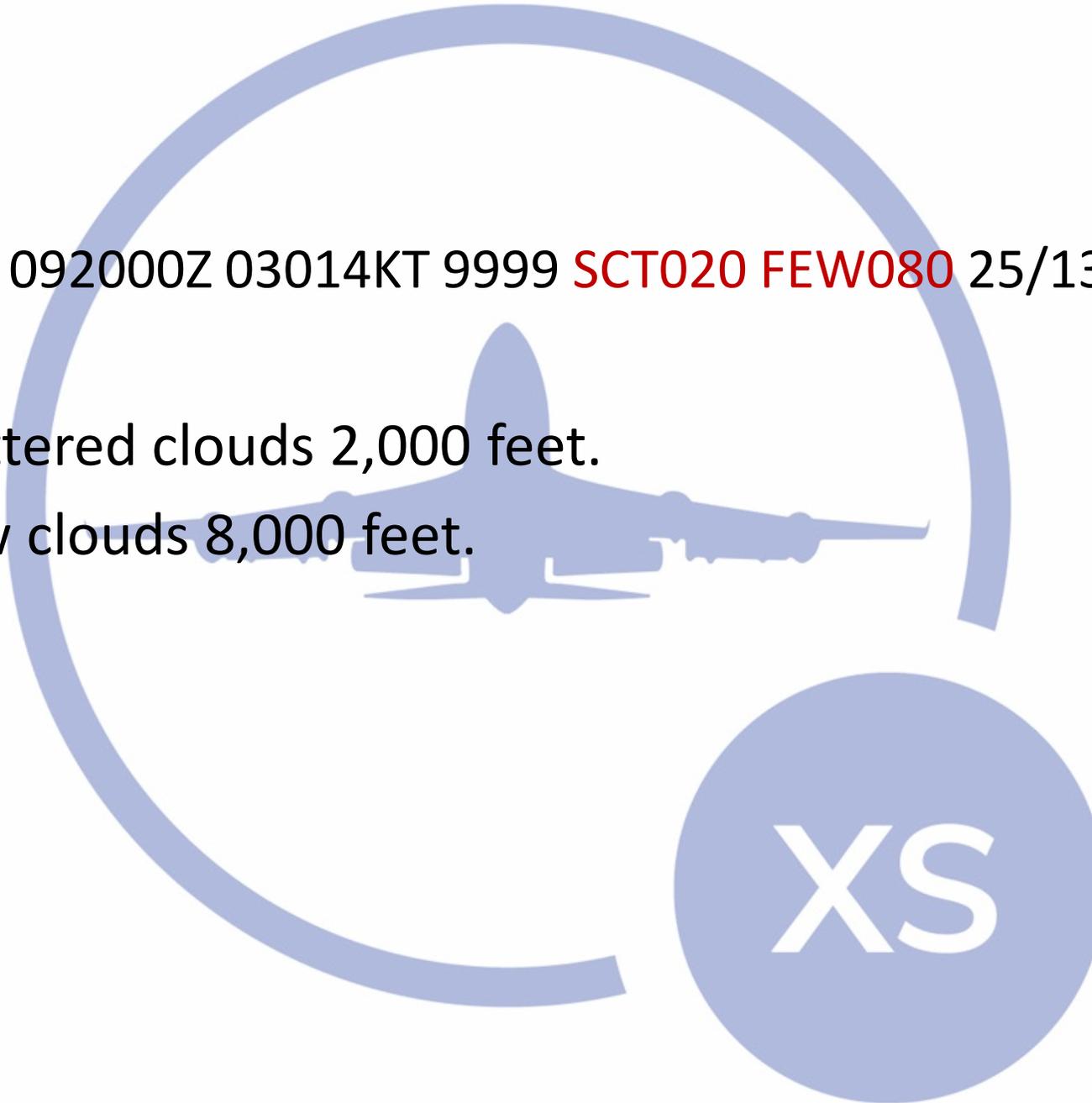
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Example:

METAR: MGGT 092000Z 03014KT 9999 **SCT020 FEW080** 25/13 Q1021 A3015

SCT020 = Scattered clouds 2,000 feet.

FEW080 = few clouds 8,000 feet.



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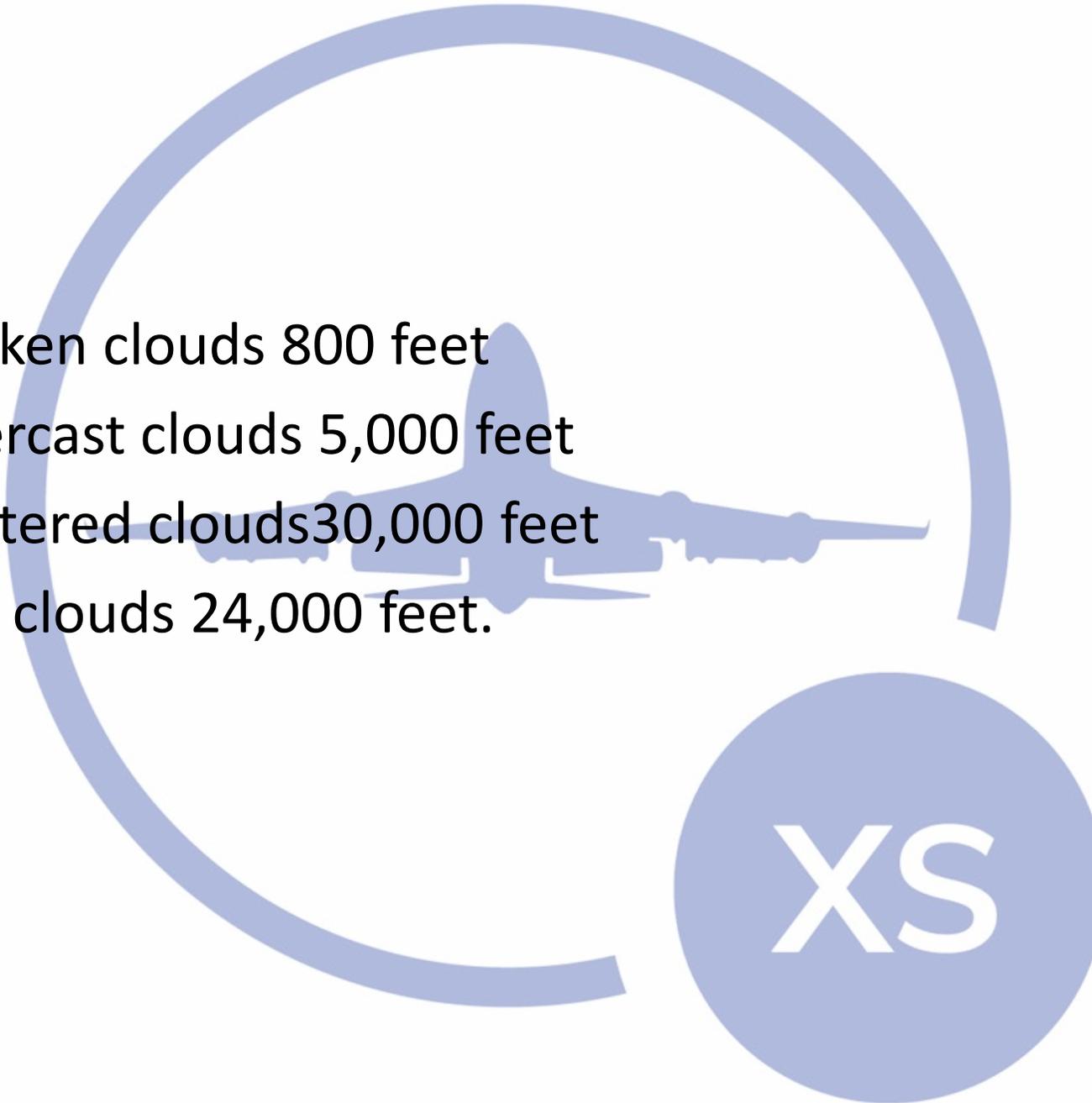
Example:

BKN008 = broken clouds 800 feet

OVC050 = overcast clouds 5,000 feet

SCT300 = scattered clouds 30,000 feet

FEW240 = few clouds 24,000 feet.



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# Temperature and dew point

This group XX/XX will inform us the Temperature/ Dew point.

METAR: MGGT 092000Z 03014KT 9999 SCT020 FEW080 25/13 Q1021 A3015

The first 2 digits (25) will indicate the temperature in Celsius and the second 2 digits (13) the dew point in Celsius aswell.

Dew point is the temperature at which the air must be cooled to become saturated in other words 100% relative humidity.

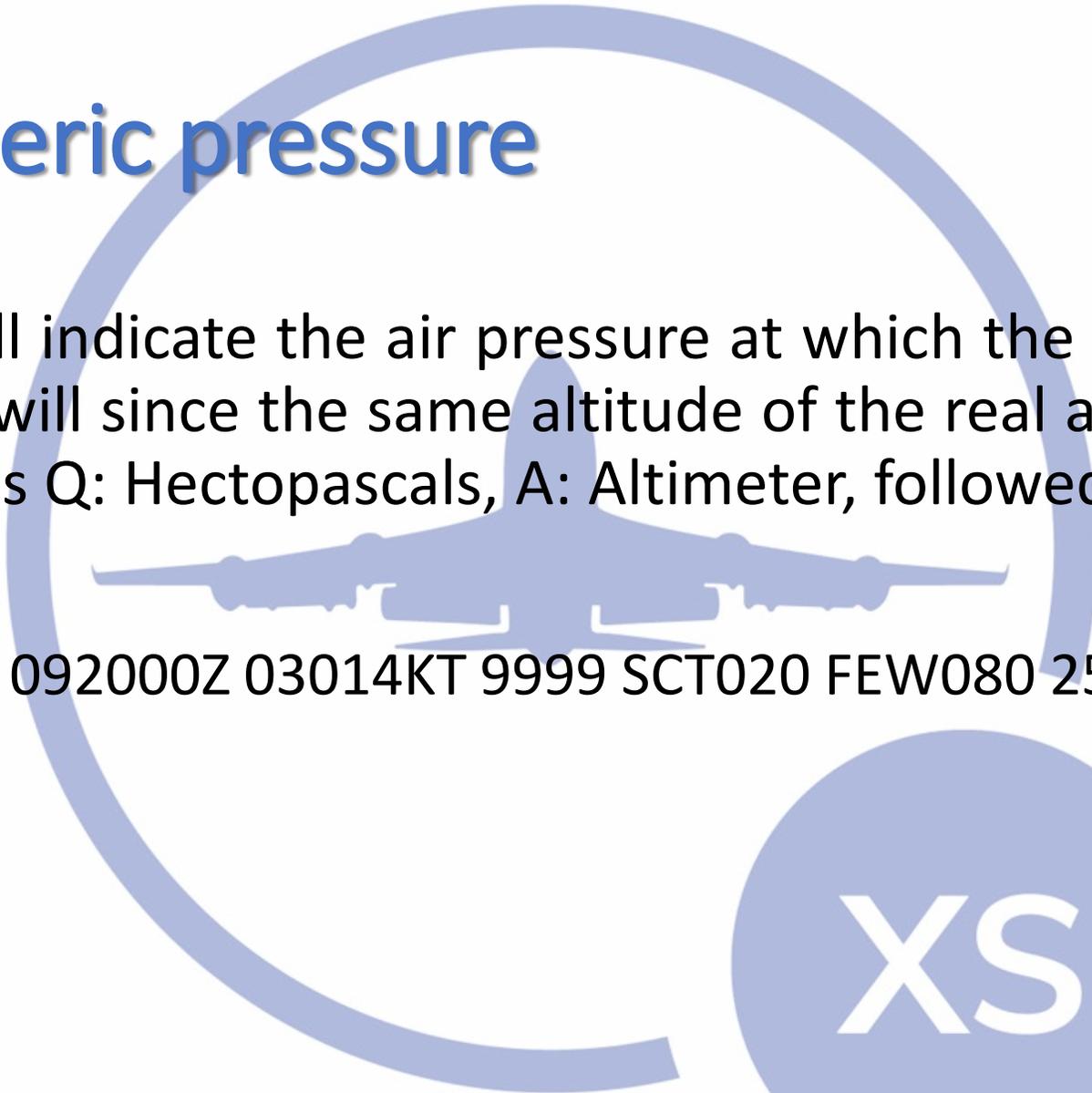
If the ambient temperature is to close to the dewpoint there is a highly possibility to encounter clouds however the dewpoint will NEVER exceed the temperature

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# Atmospheric pressure

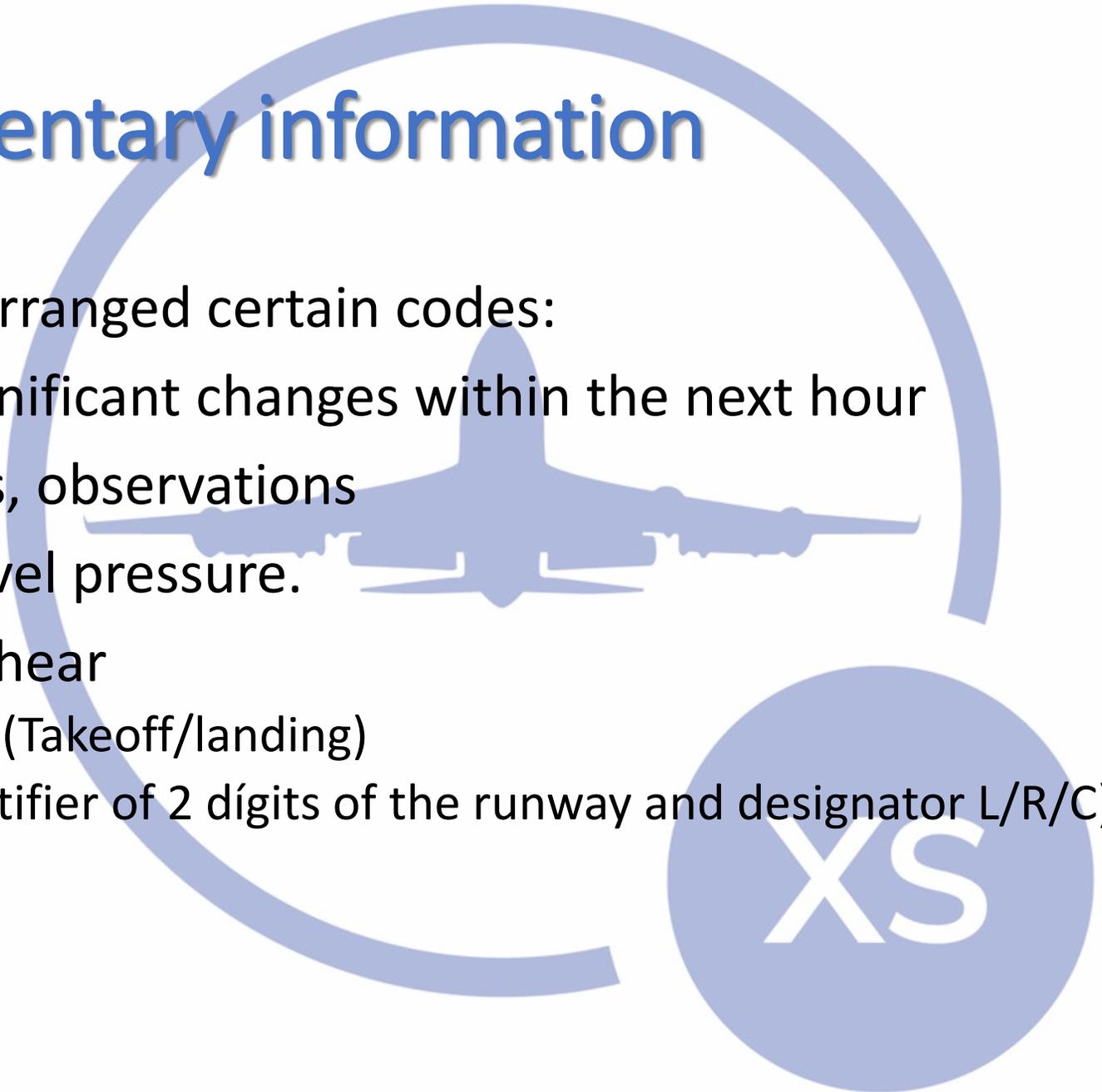
This group will indicate the air pressure at which the altimeter must be calibrated so will since the same altitude of the real airport (QNG). This is expressed as Q: Hectopascals, A: Altimeter, followed by 4 digits

METAR: MGGT 092000Z 03014KT 9999 SCT020 FEW080 25/13 **Q1021 A3015**



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# Supplementary information



Here can be arranged certain codes:

NOSIG: no significant changes within the next hour

RMK: remarks, observations

- SLP = Sea level pressure.
- WS = Windshear
  - TKOF/LDG (Takeoff/landing)
  - RWY (identifier of 2 dígits of the runway and designator L/R/C)

# Examples of Cenamer's METAR

- El Salvador, San Oscar Arnulfo Romero y Galdámez International Airport:

METAR: MSLP 102050Z 22005KT 180V260 9999 FEW073 31/22 Q1008 A2978  
NOSIG

El Salvador international airport, on 10 time 20:50 Zulú, wind 220° at 05 knots, wind variable from 180° y 260°, visibility 10 km or more, few clouds at 7'300 feet, temperature 31°, dew point 22° QNH 1008 altimeter 2978", no significant changes within one hour.

- Toncontín, Honduras International airport:

METAR: MHTG 102200Z 02010KT 8000 VCSH FEW008 BKN028 22/17 Q1018 A3006

Toncontin international airport on 10 at 22:00Z wind 020 at 10 knots 8 km of visibility showers at the vicinity of the airport, few clouds at 800 feet, broken clouds at 2'800 feet, Temperature 22°, Dew point 17° QNH 1018, Altimeter 3006

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- Juan Santamaria Costa Rica International airport:

METAR: MROC 052200Z 08018G30KT 060V120 CAVOK 25/15 A2987

Juan Santamaria airport on 05 22:00Z wind 080 at 18kts gust 30kts, variable between 060° to 120°, ceiling and visibility OK, temperature 25°, dew point 15° altimeter 2987.

A blue circular logo containing the white letters 'XS' in a bold, sans-serif font.

- Aeropuerto internacional Tocumen, PANAMA:  
MPTO 202100Z 34012KT 9999 SCT018 30/20 Q1007

Aeropuerto internacional Tocumen día 20 hora 21:00 Zulú, vientos 340° a 12 nudos, visibilidad 10 km o mas, nubes dispersas a 1,800 pies, temperatura 30° Celsius, 20° de punto de rocío, QNH 1007 hectopascales (milibares).

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