Symbols for Significant Weather

Thunderstorm	Widespread Fog	Widespread Mist
Tropical Cyclone	Radioactive materials in the atmosphere (2)	Volcanic Eruption (3)
Severe Squall Line (1)	Severe Sand or Dust Haze	Mountain Obscuration
Moderate Turbulence	Widespread Sandstorm or Dust Storm	Widespread Haze
Severe Turbulence	Drizzle	Widespread Blowing Snow
Mountain Waves	Rain	Widespread Smoke
Moderate Aircraft Icing	Snow	Freezing Precipitation (4)
Severe Aircraft Icing	Shower	Hail

(1) In flight documentation for flights operating up to FL100. This symbol refers to "squall line".
(2) The following information should be included at the side of the chart: radioactive materials symbol; latitude/longitude of accident site; date and time of accident; check NOTAM for further information.
(3) The following information should be included at the side of the chart: volcanic eruption symbol; name and international number of volcano (if known); latitude/longitude; date and time of the first eruption (if known); Check SIGMETs and NOTAM or ASHTAM for volcanic ash.
(4) This symbol does not refer to icing due to precipitation coming into contact with an aircraft which is at very low temperature.

NOTE: Height indications between which phenomena are expected, top above base as per chart legend.

Fronts & Convergence zones and other symbols used in Significant Weather Charts

Cold Front at the Surface	Tropopause High (H 460)	Intertropical Convergence Zone
Warm Front at the Surface	Tropopause Low (270 L)	State of the Sea (10)
Occluded Front at the Surface	Tropopause level (380)	Sea-surface Temperature (18)
Quasi-stationary Front at the Surface	Position, speed and level of max. wind (FL270)	Widespread Strong Surface Wind* (40)
Movement of a frontal system	Convergence line	Area of Significant Weather
Movement of a pressure system (H, X, 10, 1018)	Freezing level (0°:100)	CAT - area
FL 320 220/400 ... FL 310		* this symbol refers to widespread surface wind speeds exceeding 30 kt.

Wind arrows indicate the maximum wind in jet and the flight level at which it occurs. If the maximum wind speed is 120 kt or more, the flight levels between which winds are greater than 80 kt is placed below the maximum wind level. In the example, winds are greater than 80 kt between FL 220 and FL 400.
The heavy line delineating the jet axis begins/ends at the points where a wind speed of 80 kt is forecast.
Significant changes (speed of 20 knots or more, 3000 ft in flight level) are marked by the double bar. In the example, at the double bar the wind speed is 120 kt.

Depicting of Lines and Systems on Significant Weather Charts

Models SWH and SWM – Significant Weather Charts (high and medium)

Scalloped line = demarcation of areas of significant weather
Heavy broken line = delineation of area of CAT
Heavy solid line interrupted by wind arrow and flight level = Position of jet stream axis with indication of wind direction, speed in kt or km/h and height in flight levels. The vertical extent of the jet stream is indicated (in flight levels) e.g. FL 270 accompanied by 240/290 indicates that the jet extends from FL 240 to FL 290.
Figures on arrows = speed in kt of movement of frontal system
Direction of arrows = direction of movement of frontal system
Flight levels inside small rectangles = height in flight levels of tropopause at spot locations eg Low and High points of the tropopause topography are indicated by the letters L or H respectively inside a pentagon with the height in flight levels. (340)

Model SWL – Significant Weather Charts (low level)

X = position of pressure centres given in hectopascals
L = centre of low pressure
H = centre of high pressure
Scalloped lines = demarcation of area of significant weather
Dashed lines = altitude of 0°C isotherm in feet (hectofeet) or metres NOTE: 0°C level may als be indicated by (0:060) i.e. 0°C level is at an altitude of 6.000 ft.
Figures on arrows = Speed in kt of movement of frontal systems, depressions or anticyclones
Direction of arrows = direction of movement of frontal systems, depressions or anticyclones
Figure inside the state of the sea symbol = total wave height in feet or metres
Figure inside the sea-surface temperature symbol = sea-surface temperature in °C
Figures inside the strong surface wind symbol = wind in kt

Belgocontrol

METEOROLOGICAL SERVICE

FLIGHT DOCUMENTATION

METEOROLOGICAL CONDITIONS EN-ROUTE AND AT AERODROMES

COMPANY/FLIGHT N°: _____

DESTINATION: _____

DATE: _____

SPECIAL INFORMATION:

_____

_____

_____

_____

For latest INFO, METARS, TAFS, SIGMETS, etc., please contact the local Belgocontrol Met Office or Briefing Office:

EBBR:	**02 206 2850**	**EBLG:**	**04 234 8573**
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Decoding of Significant Present and Forecast Weather

Qualifier				Weather Phenomena					
Intensity or Proximity (1)		Descriptor (2)		Precipitation (3)		Obscuration (4)		Other Phenomena (5)	
-	Light	MI	Shallow	DZ	Drizzle	BR	Mist	PO	Dust/Sand whirls (dust devils)
No qualifier	Moderate	BC	Patches	RA	Rain	FG	Fog	SQ	Squalls
+	Heavy	PR	Partial (covering part of the aerodrome)	SN	Snow	FU	Smoke	FC	Funnel cloud(s) (tornado or waterspout)
VC	In the vicinity	DR	Low drifting	SG	Snow grains	VA	Volcanic ash	SS	Sandstorm
		BL	Blowing	IC	Ice crystals (diamond dust)	DU	Widespread dust	DS	Duststorm
		SH	Shower(s)	PL	Ice pellets	SA	Sand		
		TS	Thunderstorm	GR	Hail	HZ	Haze		
		FZ	Freezing (supercooled)	GS	Small hail and/or snow pellets				
				UP	Unidentified precipitation				

The weather groups shall be constructed by considering columns 1 to 5 in the table above in sequence, that is intensity, followed by description, followed by weather phenomena.

Examples:

+SHRA	= heavy shower(s) of rain	SNRA	= moderate snow and rain
FZDZ	= moderate freezing drizzle	BCFG	= patches of fog
+TSSNGR	= thunderstorm with heavy snow and hail	-SHSN	= light shower of snow

Additional Abbreviations

CAVOK	Cloud And Visibility OK replaces visibility, present weather and cloud information if: 1. the visibility is 10 km or more, and 2. there are no CB's and no TCU's and there are no clouds below 1500 m (5000 ft) or below the highest minimum sector altitude, whichever is greater, and 3. there is no significant weather to aviation.
NSC	Nil Significant Cloud is used as cloud information if there are no clouds of operational significance, i.e. there are no CB's and no TCU's and there are no clouds below 1500 m (5000 ft) or below the highest minimum sector altitude, whichever is greater, and there is no restriction on vertical visibility and CAVOK is not appropriate.

ABV	Above	**LCA**	Locally	**TEMPO**	Temporary
AD	Aerodrome	**MOV**	Moving	**TL**	Till
AMD	Amended	**NC**	No Change	**UIR**	Upper flight Information Region
APRX	Approximate or approximately	**NCD**	No Clouds Detected	**VIS**	Visibility
BECMG	Becoming	**NOSIG**	No Significant Change	**VRB**	Variable
BLW	Below	**NSW**	Nil Significant Weather	**VV**	Vertical Visibility
CAT	Clear Air Turbulence	**OBS**	Observed	**WDSPR**	Widespread
CLD	Cloud	**OTLK**	Outlook	**WI**	Within
CNL	Cancelled	**PROB**	Probability	**WID**	Width
CTA	Control Area	**PSN**	Position	**WKN**	Weakening
FCST	Forecast	**RWY**	Runway	**WRNG**	Warning
FIR	Flight Information Region	**SFC**	Surface	**WS**	Wind Shear
FM	From	**SIG**	Significant	**WSPD**	Wind Speed
INTSF	Intensifying	**STNR**	Stationary	**WX**	Weather

Abbreviations used to describe clouds

Type

CI	= Cirrus	AS	= Altostratus	CU	= Cumulus
CC	= Cirrocumulus	NS	= Nimbostratus	TCU	= Towering Cumulus
CS	= Cirrostratus	SC	= Stratocumulus	CB	= Cumulonimbus
AC	= Altocumulus	ST	= Stratus		

Amount

Clouds except CB

FEW	=	few (1/8 to 2/8)
SCT	=	scattered (3/8 to 4/8)
BKN	=	broken (5/8 to 7/8)
OVC	=	overcast (8/8)

CB only

ISOL	=	individual CBs (isolated)
OCNL	=	well-separated CBs (occasional)
FRQ	=	CBs with little or no separation (frequent)
EMBD	=	CBs embedded in layers of other clouds or concealed by haze (embedded)

Heights

Heights are indicated on SWH and SWM charts in flight levels (FL), top over base.
When XXX is used, tops or bases are outside the layer of the atmosphere to which the chart applies.
In SWL charts:
1. Heights are indicated as altitudes in hectofeet above mean sea level;
2. The abbreviation SFC is used to indicate ground level;
3. XXX is used to indicate that tops are outside the layer of the atmosphere to which the chart applies.

Note: LYR on a SIGWX chart indicates layer of clouds or layered clouds.

Phenomena for which Sigmets are issued

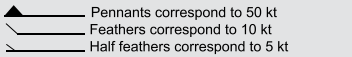
At cruising levels:
- Thunderstorm (OBSC, EMBD, SQL, FRQ)* – TS
- Thunderstorm with hail – TSGR
- Tropical Cyclone – TC (+ cyclone name)
- Severe Turbulence – SEV TURB
- Severe Icing – SEV ICE
- Severe Icing due to Freezing Rain – SEV ICE (FZRA)
- Severe mountain waves – SEV MTW
- Heavy Sandstorm – HVY SS
- Heavy Duststorm – HVY DS
- Volcanic Ash – VA (+ volcano name)
- Radioactive cloud - RDOACT CLD

*:

OBSC	=	TSs obscured by haze or smoke or not visible due to darkness (obscured)
EMBD	=	TSs embedded in layers of other clouds (embedded)
SQL	=	TSs along a line with little or no separation (squall line)
FRQ	=	TSs or CBs with little or no separation (frequent)

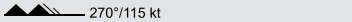
Arrows and Feathers

Arrows indicate direction. Number of pennants and/or feathers correspond to speed



Pennants correspond to 50 kt
Feathers correspond to 10 kt
Half feathers correspond to 5 kt

Example:



270°/115 kt

Conversion Formulas

1 knot = 1.852 kilometres per hour
1 knot = 0.514444 metres per second
1 metre per second = 3.600 kilometres per hour
1 foot = 0.3048 metres
1 nautical mile = 1.852 kilometres

Info on Upper Wind and Upper-Air Temperature Charts

Arrows and feathers: see above
Temperatures: always negative temperature except when preceeded by **PS**

Units used in ICAO-products

Parameter	*Unit(s)*
Wind direction for landing and take off	*Degrees Magnetic*
Wind direction for all other purposes	*Degrees True*
Wind Speed	*Knots or Metres per Second*
Visibility	*Metres or Kilometres*
Cloud Heights	*Hectofeet (= Flight Levels)*
Vertical Visibility	*Hectofeet*
Air Pressure	*Hectopascal*
Temperature	*Degrees Celcius (=Centigrade)*
Horizontal Distances	*Nautical Miles or Kilometres*
Speed of Movement of Phenomena	*Knots or Metres per Second*
Level (altitude) of Occurrence of Phenomena	*Hectofeet (=Flight Levels)*
Time	*Hours and Minutes UTC*