

SIGMET QUICK REFERENCE GUIDE

WS SIGMET

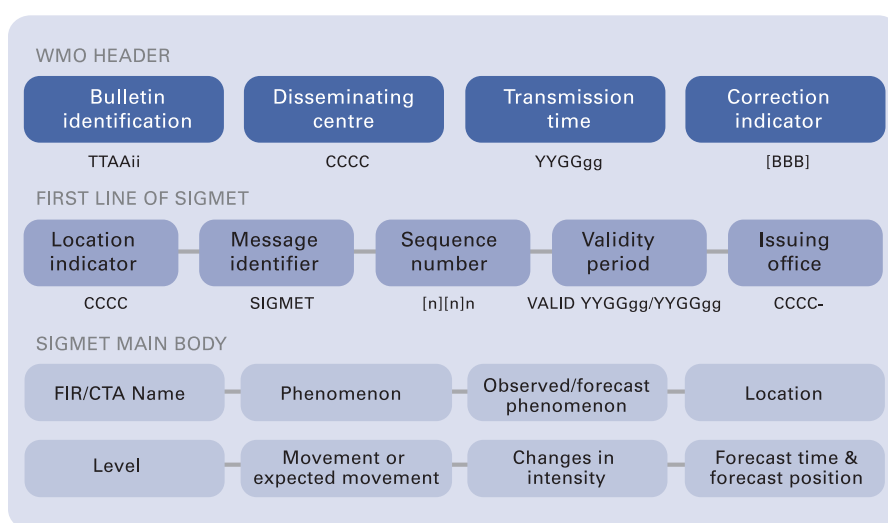
SIGMET Abbreviations

| | |
|-------|----------------------------|
| ABV | Above |
| CNL | Cancel or cancelled |
| CTA | Control area |
| FCST | Forecast |
| FIR | Flight Information Region |
| FL | Flight level |
| FT | Feet |
| INTSF | Intensify or intensifying |
| KT | Knots |
| KMH | Kilometres per hour |
| M | Metres |
| MOV | Moving |
| NC | No Change (in intensity) |
| NM | Nautical Miles |
| OBS | Observed |
| SFC | Surface |
| STNR | Stationary |
| TOP | Top (of CB cloud) |
| WI | Within (area) |
| WKN | Weakening (intensity) |
| Z | Coordinated Universal Time |

WS SIGMET

A SIGMET provides concise information issued by a Meteorological Watch Office (MWO) concerning the occurrence or expected occurrence of specific en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. The WS SIGMET provides information on phenomena other than tropical cyclones and volcanic ash.

SIGMET Structure



WMO Header

Bulletin identification

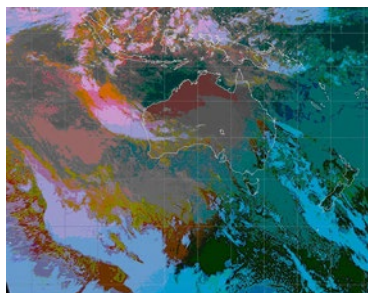
| TT | Data type designator | WS – for SIGMET for phenomena other than volcanic ash cloud and tropical cyclone |
|----|----------------------------------|--|
| AA | Country or territory designators | Assigned according to Table C1, Part II of <i>Manual on the Global Telecommunication System, Volume I – Global Aspects</i> (WMO Publication No. 386) |
| ii | Bulletin number | Assigned on national level according to Part II of <i>Manual on the Global Telecommunication System, Volume I – Global Aspects</i> (WMO Publication No. 386) |

Disseminating centre

CCCC is the ICAO location indicator of the communication centre disseminating the message (this may be the same as the MWO location indicator).

Transmission time

YYGGgg is the date/time group; where YY is the day of the month and GGgg is the time of transmission of the SIGMET in hours and minutes UTC (normally this time is assigned by the disseminating (AFTN) centre).



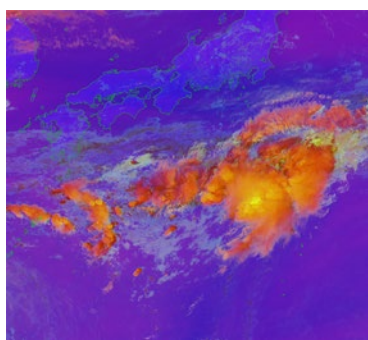
MTSAT-1R icing enhancement. Dark areas indicate the presence of supercooled liquid water (black by night, red by day). High level cirrus (bright areas) may prevent the satellite from seeing the lower level clouds.



Anvil of a cumulonimbus cloud



Duststorm, Sydney, 23 September 2009. Image courtesy of Elly Spark, Bureau of Meteorology.



Day Convective Storm RGB, Himawari-8. This RGB composite image is used for CB detection. Red and yellow coloured clouds are possible CB clouds (deep precipitating clouds).

Correction indicator

BBB should only be included when issuing a correction to a SIGMET which had already been transmitted. The BBB indicator shall take the form **CCx** for corrections to previously relayed bulletins, where x takes the value A for the first correction, B for the second correction, etc., for a specific SIGMET.

First line of SIGMET

Location indicator

CCCC is the ICAO location indicator of the ATS unit serving the FIR or CTA to which the SIGMET refers.

Message identifier

The message identifier is **SIGMET**.

Sequence number

The daily sequence number in the form **[n][n]n**, e.g. 1, 2, 01, 02, A01, A02, restarts every day for SIGMETs issued from 0001 UTC.

Validity period

The validity period is given in the format **VALID YYGGgg/YYGGgg** where YY is the day of the month and GGgg is the time in hours and minutes UTC. The period of validity for a WS SIGMET shall be no more than 4 hours.

Issuing Office

CCCC- is the ICAO location indicator of the MWO originating the message followed by a hyphen.

SIGMET Main Body

FIR/CTA Name

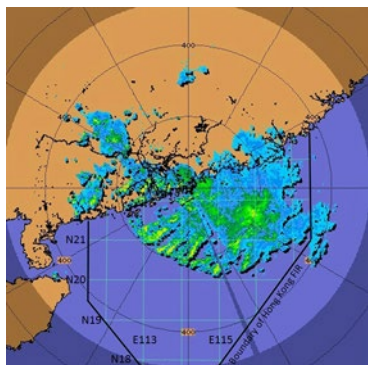
The ICAO location indicator and full name of the FIR/CTA for which the SIGMET is issued in the form **CCCC <name> FIR[/UIR] or CCCC <name> CTA**.

Phenomenon

| Code | Description |
|----------------|-------------------------------------|
| OBSC TS | Obscured thunderstorms |
| EMBDTS | Embedded thunderstorms |
| FRQTS | Frequent thunderstorms |
| SQLTS | Squall line thunderstorms |
| OBSC TSGR | Obscured thunderstorms with hail |
| EMBD TSGR | Embedded thunderstorms with hail |
| FRQTSGR | Frequent thunderstorms with hail |
| SQLTSGR | Squall line thunderstorms with hail |
| SEVTURB | Severe turbulence |
| SEV ICE | Severe icing |
| SEV ICE (FZRA) | Severe icing due to freezing rain |
| SEV MTW | Severe mountain wave |
| HVY DS | Heavy duststorm |
| HVY SS | Heavy sandstorm |
| RDOACT CLD | Radioactive cloud |

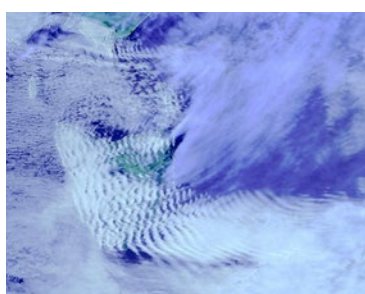
Observed or forecast phenomenon

Whether the phenomenon is observed or forecast in the form **OBS [AT GGggZ]** or **FCST [AT GGggZ]** where GG is hours and gg minutes UTC.



Widespread thunderstorms affecting the Southern China and the northern part of South China Sea on 9 May 2014.

| | |
|-----|----------------------------|
| E | East or eastern longitude |
| ENE | East-north-east |
| ESE | East-south-east |
| N | North or northern latitude |
| NE | North-east |
| NNE | North-north-east |
| NNW | North-north-west |
| NW | North-west |
| S | South or southern latitude |
| SE | South-east |
| SSE | South-south-east |
| SSW | South-south-west |
| SW | South-west |
| W | West or western longitude |
| WNW | West-north-west |
| WSW | West-south-west |



Satellite image of mountain waves over Tasmania, 3 December 2002.

Location

The location of the phenomenon is provided with reference to geographical coordinates in latitude and longitude in degrees and minutes.

The number of coordinates should be kept to a minimum and should not normally exceed seven.

Level

The level and vertical extent of the phenomenon:

FLnnn or **nnnnM** or **nnnnFT** or **SFC/FLnnn** or **SFC/nnnnM** or **SFC/nnnnFT** or **FLnnn/nnn** or **nnnn/nnnnFT** or **TOP FLnnn** or **ABV FLnnn** or **TOP ABV FLnnn**.

Movement or Expected Movement (not included if 'forecast time' and 'forecast position' are given)

Direction and rate of movement of the phenomenon where the direction is given with reference to one of the sixteen points of the compass (using the appropriate abbreviation) and the rate is given in KT (or KMH) in the form **MOV <direction> <speed>KT** or **KMH**. The abbreviation **STNR** (Stationary) is used if no significant movement is expected.

Changes in Intensity

The expected evolution of the phenomenon's intensity as indicated by:

INTSF or **WKN** or **NC**

Forecast time and forecast position (not included if movement given)

The forecast position of the hazardous phenomena at the end of the validity period of the SIGMET message in the form **FCST AT <GGgg>Z <location>**.

Renewing a SIGMET

A SIGMET is renewed with a new sequence number when the validity period is due to expire but the phenomenon is expected to persist.

Cancelling a SIGMET

If, during the validity period of a SIGMET, the phenomenon for which the SIGMET was issued is no longer occurring or is no longer expected, the SIGMET shall be cancelled by issuing a SIGMET with the abbreviation **CNL**.

CNL SIGMET [n][n]n YYGGgg/YYGGgg

Source of Information

| Source of Information | Phenomena |
|--|---|
| Surface and upper-air observations Special AIREP Satellite pictures NWP forecasts | Thunderstorms, dust/sandstorms, turbulence, mountain waves, icing |
| RADAR Lightning information | Thunderstorms |
| WMO RSMC (Atmospheric transport modelling for environmental emergency) | Radioactive cloud |

SIGMET Dissemination

SIGMET is part of operational meteorological (OPMET) information and should be exchanged via aeronautical fixed service (AFS). The SIGMET priority indicator used shall be **FF**.

WS SIGMET Examples

Format

WSAAii CCCCYYGGgg [BBB]
 CCCC SIGMET [n][n]n VALID YYGGgg/YYGGgg CCCC-
 CCCC <FIR/CTA Name> FIR <Phenomenon> OBS/FCST
 [AT GGggZ] <Location> <Level> <Movement> <Intensity
 changes> <Forecast time and forecast position>=

Thunderstorms

WSSS20 VHHH 090900
 VHHK SIGMET 3 VALID 090900/091300 VHHH-
 VHHK HONG KONG FIR EMBD TS OBS AT 0900Z N OF
 N2000 AND E OF E11330 TOP FL400 INTSF FCST AT
 1300Z N OF N2000 AND E OF E11300=

Duststorms

WSAU21 ADRM 240330
 YMMM SIGMET D01 VALID 240330/240430 YPDM-
 YMMM MELBOURNE FIR HVY DS OBS WI S2300
 E13415 - S2240 E13800 - S2520 E13800 - S2525
 E13520 - S2300 E13415 SFC/7000FT MOV N 25KT NC=

Sandstorms

WSCI33 ZBAA 301110
 ZBPE SIGMET 2 VALID 301110/301510 ZBAA-
 ZBPE BEIJING FIR HVY SS OBS AT 1100Z N OF N40
 SFC/2000M MOV E 30KMH NC=

Turbulence

WSNZ21 NZKL 232134
 NZCC SIGMET 18 VALID 232134/240134 NZKL-
 NZCC NEW ZEALAND FIR SEV TURB FCST WI S3929
 E17602 - S4305 E17136 - S4522 E17000 - S4538
 E17159 - S4112 E17624 - S3929 E17602 FL180/260 MOV
 E 25KT INTSF=

Mountain waves

WSAU21 AMRF 061700
 YMMM SIGMET M07 VALID 061700/062100 YMRF-
 YMMM MELBOURNE FIR SEV MTW OBS WI S3704 E14244
 - S3611 E14753 - S3736 E14943 - S4006 E14800 - S3952
 E14353 - S3704 E14244 FL080/140 STNR NC=

Icing

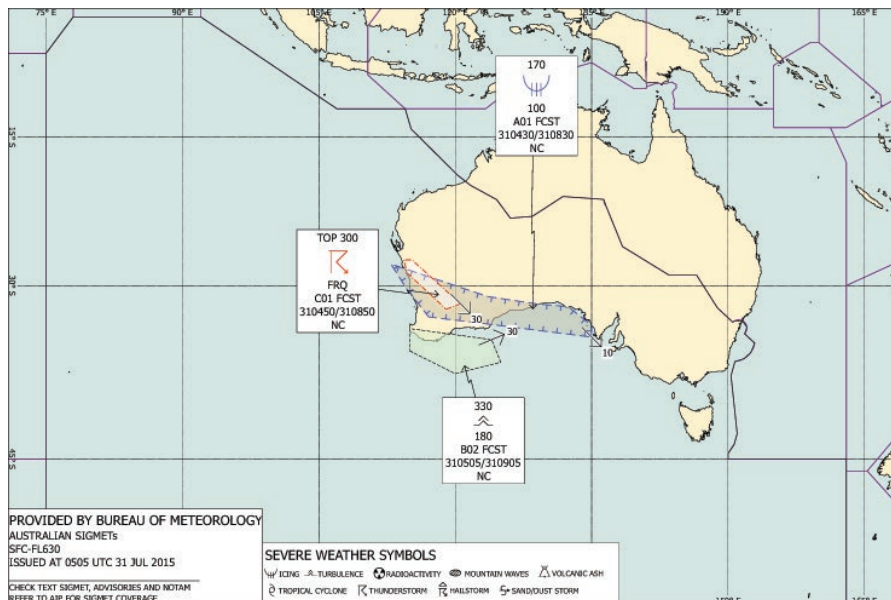
WSCI45 ZHHH 021100
 ZHWH SIGMET 3 VALID 021100/021500 ZHHH-
 ZHWH WUHAN FIR SEV ICE FCST N OF N28 SFC/FL200
 STNR NC=

Radioactive cloud

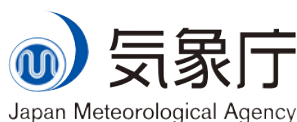
WSSS20 VHHH 180830
 VHHK SIGMET 1 VALID 180830/181230 VHHH-
 VHHK HONG KONG FIR RDOACT CLD FCST E OF E114
 SFC/FL100 MOV E 20KT WKN=

Cancellation

WSSS20 VHHH 181100
 VHHK SIGMET 2 VALID 181100/181230 VHHH-
 VHHK HONG KONG FIR CNL SIGMET 1 180830/181230=



Graphical SIGMET display.



Refer to the following for more information

- ICAO Annex 3 – Meteorological Service for International Air Navigation (Amd 77)
- ICAO Regional SIGMET Guide
- ICAO Doc.8896 – Manual of Aeronautical Meteorological Practice
- WMO No.49 Technical Regulations Volume II – Meteorological Service for International Air Navigation (2013 ed)
- WMO No.732 Guide to Practices for Meteorological Offices Serving Aviation