

Wind shear warnings

Wind shear warnings

Wind shear warnings provide operators with concise information on the observed or expected existence of wind shear which could adversely affect aircraft:

- on the approach path, take-off path or during circling approach, between runway level and 1,600 feet above that level
- on the runway during the landing roll or take-off run.

Where local topography has been shown to produce significant wind shears at heights in excess of 1,600 feet above runway level, then 1,600 feet is not considered to be restrictive.

Wind shear warnings will be cancelled when wind shear ceases, or is expected to cease, during the validity period of the warning.

Causes of wind shear

Significant wind shear is often encountered with and in the vicinity of:

- Thunderstorms, microbursts, funnel cloud (tornado or waterspout), and gust fronts
- Frontal systems
- Sea breezes
- Frictional shearing
- Temperature inversions
- Mountain waves (including low-level rotors in the terminal area)
- Wake vortices
- Strong surface winds coupled with local topography or obstacles
- Low-level temperature inversions

Message structure

Location indicator is the aerodrome to which the wind shear warning applies.

WS WRNG identifies the message type.

Sequence number gives the sequential number of wind shear warnings issued for the aerodrome since 0001 UTC (coordinated universal time) on the day concerned.

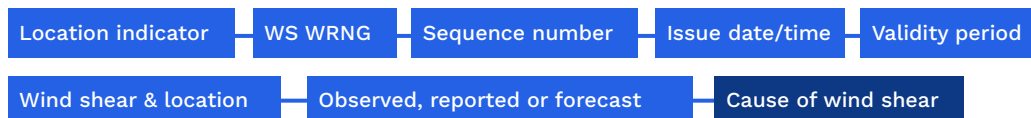
Issue date/time is the day of the month and the time (in UTC) the message was issued by the meteorologist. It is given in the format DDHHMM, for example, 300559 gives an issue time of 0559 on the 30th.

Validity period is the period of time (in UTC) that the phenomenon is expected to last for. It is given in the format VALID TL DDHHMM or VALID DDHHMM/DDHHMM. For example, 300600/301000 is a validity period of 4 hours from 0600 on the 30th.

Wind shear & location provides information on the wind shear (WS). Intensity may be indicated as either moderate (MOD) or severe (SEV). The location information can include the runway (RWY) and either the approach (APCH) or take-off (CLIMB-OUT) paths. If the warning relates to a microburst this will be denoted by MBST.

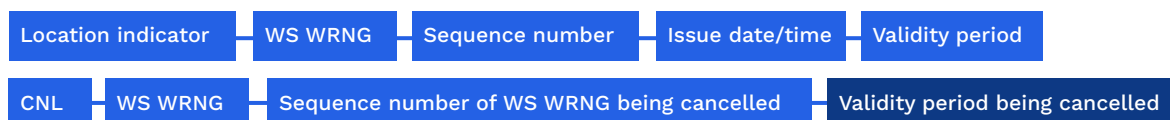
Observed, reported or forecast identifies whether the wind shear is observed (OBS), reported (RPT) or forecast (FCST). Observed and reported wind shear is followed by the time in UTC, in the format AT HHMM. When an aircraft report is used to prepare a wind shear warning the aircraft type can be included.

Cause of wind shear provides a description of the phenomenon causing the issuance of the wind shear warning, using approved abbreviations or English plain language text. It may include wind information at the surface (SFC) and at a specified height above the surface.



■ Cause of wind shear is provided when known

Cancellation of a wind shear warning will be indicated by use of the abbreviation CNL, e.g. CNL WS WRNG 1



■ This is not included if the wind shear warning is being cancelled in full

Wind shear warning examples

YPAD WS WRNG 01 031930 VALID 031930/032030
 WS REP AT 1920 ASSOCIATED WITH THE PASSAGE OF THE FRONT
 SFC WIND: 34020G30KT
 1500FT WIND: 17030G40KT

Adelaide Airport wind shear warning number 1. Issued at 1930 UTC on the 3rd of the month. The wind shear warning is valid for 1 hour from 1930-2030 UTC on the 3rd of the month. Wind shear was reported at 1920 UTC, associated with the passage of a frontal system. The surface wind is 340 degrees true at 20 knots, gusting to 30 knots. The wind at 1,500 feet is 170 degrees true at 30 knots, gusting to 40 knots.

YMML WS WRNG 02 210330 VALID 210400/210430
 WS FCST WITH ONSET OF SEA BREEZE
 FCST SFC WIND: 36020G30KT TURNING 19015G25KT
 FCST 1000FT WIND: 36030KT

Melbourne Airport wind shear warning number 2. Issued at 0330 UTC on the 21st of the month. The wind shear warning is valid for 30 minutes from 0400-0430 UTC on the 21st of the month. Wind shear is forecast with the onset of the sea breeze. The forecast surface wind is 360 degrees true at 20 knots, gusting to 30 knots, turning to become 190 degrees true at 15 knots, gusting 25 knots. The forecast wind at 1,000 feet is 360 degrees true at 30 knots.

YSSY WS WRNG 01 250530 VALID 250535/250600
 SEV WS IN APCH REP B747 AT 0520. 30KT AIRSPEED LOSS 2NM FINAL APCH RWY26

Sydney Airport wind shear warning number 1. Issued at 0530 UTC on the 25th of the month. The wind shear warning is valid for 25 minutes from 0535-0600 UTC on the 25th of the month. Severe wind shear was reported on the approach path by a Boeing 747 at 0520 UTC. A 30 knots airspeed loss was encountered at 2 nautical mile final approach to runway 26.

YSSY WS WRNG 02 250545 VALID 250545/250600
 CNL WS WRNG 01 250535/250600

Sydney Airport wind shear warning number 2. Issued at 0545 UTC on the 25th of the month and valid from 0545-0600 UTC. This cancels wind shear warning 1 which was valid for 25 minutes from 0535-0600 UTC on the 25th of the month. Wind shear is no longer expected between 0545-0600 UTC.

Note: Wind shear alerts (as distinct from wind shear warnings) may be provided at locations where automated, ground-based, wind shear remote-sensing or detection equipment is installed.

Further aviation educational resources produced by the Bureau of Meteorology can be found at www.bom.gov.au/aviation/knowledge-centre.

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| A vertical line in the margin indicates a change or addition since last update.

Abbreviations

APCH	Approach
FCST	Forecast
FNA	Final approach
FT	Feet
KT	Knots
MBST	Microburst
MOD	Moderate
OBS	Observed
REP	Reported
RWY	Runway
SEV	Severe
SFC	Surface
TL	Until
WRNG	Warning
WS	Wind shear

Contact us



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