

What TAF values really mean

The values provided in TAFs are commonly thought to represent the exact forecast conditions for a specific time.

In fact, whilst these values represent the most likely expected conditions, they account for a range of potential values. These ranges are defined by ICAO and implemented in the UK. 'Change groups' in the TAF exist to represent changes in the weather that are expected to occur outside of these value ranges. Amendments are issued when unforecast weather outside of these ranges has occurred or is expected to occur.

The following table describes the criteria for issuing a change group in a TAF, and what this means in practice for the range of values that the forecast wind, visibility, cloud, and weather convey.

Wind direction	
TAF change rule: a change of...	What it means, in practice...
30 degrees or more in mean direction, the mean speed before or after the change being 20 KT or more.	<p>The actual wind direction can be up to 20 degrees either side of the forecast wind direction.</p> <p>For example: 26025G40KT in the TAF means that the actual wind can be between 240-280 degrees before a change or amendment is necessary.</p>
60 degrees or more in mean direction, the mean speed before or after the change being 10 KT or more.	<p>The actual wind direction can be up to 50 degrees either side of the forecast wind direction.</p> <p>For example: 26012KT in the TAF means that the actual wind can be between 210-310 degrees before a change or amendment is necessary.</p>

Wind speed	
TAF change rule: a change of...	What it means, in practice...
10 KT or more in mean speed.	<p>The actual mean wind speed can be up to 10 KT higher or lower than that forecast.</p> <p>For example: 22015KT in the TAF means that the actual mean wind speed can be between 6 KT to 24 KT before a change or amendment is necessary.</p>
10 KT or more in gust speed, the mean speed before or after the change being 15 KT or more.	<p>The actual gust wind speed can be up to 10 KT higher or lower than that forecast.</p> <p>For example: 22015G30KT in the TAF means that the actual gust wind speed can be between 21 KT to 39 KT before a change or amendment is necessary.</p>
Surface visibility ranges	
TAF change rule: a change of...	What it means, in practice...
10 KM or more	A forecast visibility of 9999 means that the actual visibility can be anything from 10 KM or greater.
5000 M to 9 KM	<p>A forecast visibility value between these values means that the actual visibility can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: 7000 in a TAF means that the actual visibility may be between 5000m and 9000m</p>
1500 M to 4900 M	<p>A forecast visibility value between these values means that the actual visibility can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: 3000 in a TAF means that the actual visibility may be between 1500m and 4900m</p>

800 M to 1400 M	<p>A forecast visibility value between these values means that the actual visibility can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: 1000 in a TAF means that the actual visibility may be between 800m and 1400m</p>
350 M to 750 M	<p>A forecast visibility value between these values means that the actual visibility can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: 600 in a TAF means that the actual visibility may be between 350m and 750m</p>
300 M or less	<p>A forecast visibility value between these values means that the actual visibility can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: 200 in a TAF means that the actual visibility may be between <50m and 300m</p>
Cloud base ranges	
TAF change rule: a change of...	What it means, in practice...
1500 FT to 4900 FT	<p>A forecast cloud base value between these values means that the actual cloud base can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: BKN030 in a TAF means that the actual cloud base may be between BKN015 and BKN049</p>
1000 FT to 1400 FT	<p>A forecast cloud base value between these values means that the actual cloud base can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: BKN012 in a TAF means that the actual cloud base may be between BKN010 and BKN014</p>

500 FT to 900 FT	<p>A forecast cloud base value between these values means that the actual cloud base can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: BKN008 in a TAF means that the actual cloud base may be between BKN005 and BKN009</p>
200 FT to 400 FT	<p>A forecast cloud base value between these values means that the actual cloud base can be anywhere within this range before a change or amendment is necessary.</p> <p>For example: BKN003 in a TAF means that the actual cloud base may be between BKN002 and BKN004</p>
100 FT or less (including sky obscured)	<p>A forecast cloud base value up to this value means that the actual cloud base can be anywhere between the surface and 100ft before a change or amendment is necessary.</p> <p>For example: BKN001 in a TAF means that the actual cloud base may be between BKN000 and BKN001</p>
Cloud amount ranges	
TAF change rule	What it means, in practice...
<p>When the amount of the lowest cloud below 1500 FT changes from half cover or less (NIL, FEW or SCT) to more than half or full cover (BKN or OVC) and vice versa</p>	<p>A forecast cloud amount may be FEW or SCT or nil without a required TAF amendment or change group. Similarly, a forecast cloud amount may be BKN or OVC without a required TAF amendment or change group.</p> <p>For example: SCT008 in a TAF means that the actual cloud amount may be between 0 to 4 oktas.</p>

Example (fictional):

EGTE 061401Z 0615/0624 21022KT 8000 SCT030 BECMG 0618/0621 20010KT
 TEMPO 0618/0624 BKN006 PROB30 TEMPO 0618/0624 3000

Decode:

Exeter TAF valid from 1500-2400 UTC

Wind	
Forecast value	Range of values covered
21022KT BECMG 20010KT	190 to 230 degrees with mean speed between 12-32 KTs throughout period 150 to 250 degrees with mean speed up to 20KT from 1800 UTC
Visibility	
Forecast value	Range of values covered
8000 PROB 30 TEMPO 3000	5 to 9 KM throughout period 30% chance of visibility temporarily between 1500m to 4900m from 1800 UTC
Cloud	
Forecast value	Range of values covered
SCT030 TEMPO BKN006	Up to 4 oktas of cloud cover with base between 1500-4900ft Temporarily 5 to 7 oktas of cloud cover with base between 500-900ft

And finally:

Further information on TAFs including issue times, duration periods & cancellation criteria is published by the CAA and available in UK AIP GEN 3.5, para 4.7.

Civilian TAF change categories

The image below shows the ranges of how much the values of cloud base and visibility given in a TAF can vary before an amendment is issued. Please note that cloud base and visibility can change independently of one another.

