



Aviation Briefing Service

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Document Issue History

Version	Issue Date	Change Description	Owner
V1	April 2019	New document	D Hardy
V2	July 2021	Replacement of AIRMET with GAMETs	D Hardy
V3	May 2022	Removal of EURO Forecast precip rate, Forecast precip type, Forecast vis & Forecast total cloud weather may layers	D Hardy

Table of Contents

1. Introduction	5
2. The Home page & basic functionality	6
2.1. Settings.....	6
2.2. Messages	7
2.3. Logout	7
2.4. Top level functions.....	7
2.5. Quick Link shortcuts.....	11
2.6. Additional Information.....	11
3. Aviation Briefing Products	13
3.1. TAF & METAR lists.....	13
3.2. Regional Forecasts	15
3.3. Briefing charts	27
3.4. Balloonists forecasts	35
4. Map weather layers.....	39
4.1. Basic Functionality.....	39
4.2. Current weather	43
4.3. Forecast Wind & Temp	50
4.4. Forecast Precipitation	54
4.5. Forecast Visibility & Cloud (premium subscribers only)	57
4.6. Euro Forecast (premium subscribers only).....	63
4.7. Map Overlays	65
4.8. Saved Map Views.....	65

1. Introduction

The Met Office, as the sole designated UK Air Navigation Service Provider of regulated aeronautical meteorological forecasts, provides a range of weather briefing products to support the activities of the UK general aviation and business jet communities.

These products are hosted on a web based aviation briefing service, which is made available to all general aviator groups and business jet operators operating within and from the UK. The aviation briefing service helps ensure that UK aviators have access to comprehensive, reliable and accurate weather information to plan and operate safely at any time. Approximately 30,000 pilots are subscribed to this service.

Access to the aviation briefing service is available via secure login, once registered, and is free of charge to all who fly from the United Kingdom. The aviation briefing service has also been designed to be used on desktop/laptop PCs, as well as mobile & tablet devices, thereby offering flexible viewing options. Registration is quick and easy, simply visit [Aviation Briefing Service](https://www.metoffice.gov.uk/aviation/ga-briefing-services) <https://www.metoffice.gov.uk/aviation/ga-briefing-services>. Some additional products are available to users wishing to subscribe to the premium version – these are products that go beyond the recommended minimum regulatory requirements. Details of how to upgrade are available at the [Aviation Briefing Service](#). Details of these products have been included in this guide, annotated as ‘Premium’

This user guide has been produced to provide brief details on all aspects of the briefing service. The Met Office are always happy to consider ways to improve future versions of this user guide or indeed the service itself– simply contact the Met Office at the details given in the ‘Contact Us’ section of the service. In this guide we have used the  icon to indicate additional information relating to the forecast, and  to indicate useful background information.

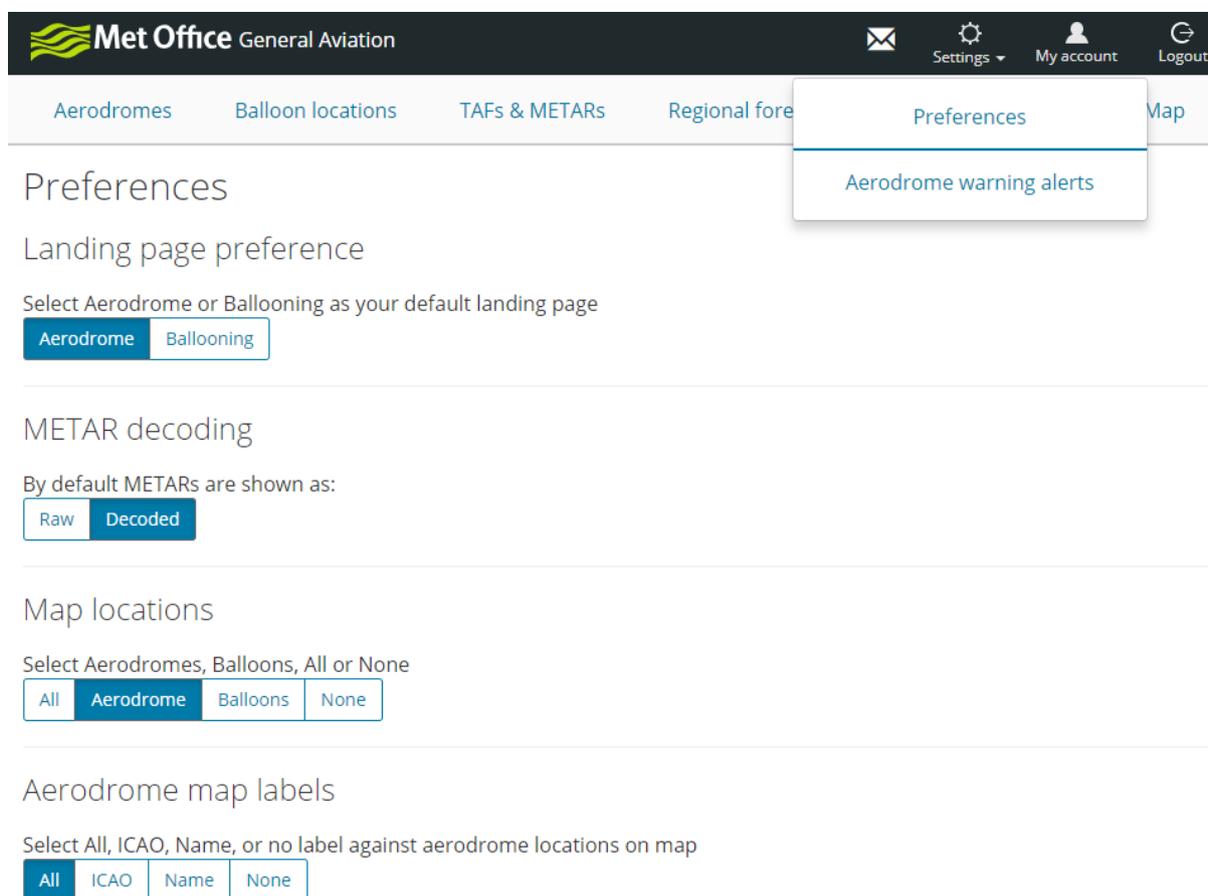
We hope that you find the aviation briefing service to be an invaluable planning & briefing tool that provides all the weather information you need to conduct safe flying, and that this guide is a useful complementary document. If you have any comments regarding this guide, please [contact us](#).

2. The Home page & basic functionality

2.1. Settings

The Settings function allows users to set a number of preferences, to optimise their use of the aviation briefing service. These preferences include the ability to view METARs in coded or decoded form, to set aerodromes or ballooning locations as your default 'landing page', to view the location of aerodromes, ballooning locations, both or neither on the interactive map, and your preferred way of viewing the aerodrome names on the map.

Once you have made your selections, these will be set until such time as you wish to change them.



The screenshot shows the Met Office General Aviation website interface. At the top, there is a navigation bar with the Met Office logo and the text "General Aviation". To the right of the logo are icons for an envelope (mail), a gear (Settings), a person (My account), and a circular arrow (Logout). Below the navigation bar is a horizontal menu with several items: "Aerodromes", "Balloon locations", "TAFs & METARs", "Regional fore...", "Preferences", and "Map". The "Preferences" item is highlighted, and a dropdown menu is open below it, showing the option "Aerodrome warning alerts".

The main content area is titled "Preferences" and contains several sections:

- Landing page preference**: "Select Aerodrome or Ballooning as your default landing page". There are two buttons: "Aerodrome" (selected) and "Ballooning".
- METAR decoding**: "By default METARs are shown as:". There are two buttons: "Raw" and "Decoded" (selected).
- Map locations**: "Select Aerodromes, Balloons, All or None". There are four buttons: "All", "Aerodrome" (selected), "Balloons", and "None".
- Aerodrome map labels**: "Select All, ICAO, Name, or no label against aerodrome locations on map". There are four buttons: "All" (selected), "ICAO", "Name", and "None".

The Settings tab also allows users to subscribe to receive aerodrome warnings for up to 2 aerodromes via email. The Aerodrome Warnings product is explored in more detail in section 3 of this guide, with further details also available from the [aerodrome weather warnings](#) web page.

Met Office Aviation Briefing Service

Aerodromes Balloon locations TAFs & METARs Regional forecasts **Preferences** Map

Aerodrome warning alerts

Aerodrome warnings alerts

Select site
Durham Tees Valley Airport (EGNV)

Select email format
PDF

Email address
Enter email

Additional email address
Enter email

Cancel Save

More Alerts

2.2. Messages

Occasionally it is necessary to alert users to some important information relevant to the aviation briefing service, for example site maintenance or an issue affecting the delivery of products. When this is the case, a message will be posted in the 'letterbox' located in the black bar at the top of the aviation briefing service .

2.3. Logout

To exit the aviation briefing service at any time, select the logout button .

We advise that you log out at least weekly to enable the system updates that the Met Office routinely release to optimise performance, to take effect.

2.4. Top level functions

The top-level functions are listed in a horizontal bar on the aviation briefing service, as shown below.

Information on each of these functions follows:

- **Aerodromes**

This section provides a quick and easy way to view a range of current information for a particular aerodrome. Type the name or ICAO for an aerodrome into the box to receive the following information for that location:

- Latest TAF (if provided)
- Latest METAR (if provided)
- Previous 4 METARs (if provided)
- Any aerodrome warnings issued (if issued)
- The relevant Forecast regional pressure setting
- Sunrise & sunset times

Further details on TAFs and METARs are available in section 3 of this guide.

If you have location settings enabled on your tablet or smartphone you can ‘*use your current location*’ to view this data for your nearest aerodrome.

The most recent aerodromes that you have searched for will remain available to reselect without typing in the aerodrome name.

 The Met Office provides aerodrome warnings for over 100 aerodromes. So even if you are operating to/from a small airfield that does not issue METARs or receive TAFs, pilots will still likely be able to access warnings of a range of significant weather conditions for that airfield including strong wind, gale, fog, frost, thunderstorms, hail, squall, snow and frost. Further details on the Aerodrome Warnings product is available at [aerodrome weather warnings](#) and in section 3 of this guide.

Search for an aerodrome location

Search for a location for TAFs, METARs, aerodrome warnings and regional pressure settings.

[Use your current location](#)

To view nearby locations, please enable Location Services in your device settings or browser. Mobile devices may also need a good GPS signal.

- **Balloon locations**

This section has been specifically designed for balloonists, and the products are described in more detail in section 3 of this guide.

The principle for accessing forecasts for locations used by balloonists is similar to accessing aerodrome information; starting to type a ballooning location will allow a balloonist to select the site they require a forecast for. An option exists to view a list and details of all the ballooning sites for which forecasts are provided.

If you have location settings enabled on your tablet or smartphone you can '*use your current location*' to view forecast data for the nearest ballooning site for which forecasts are provided.

The most recent ballooning locations that you have searched for will remain available to reselect without typing in the location name.

A range of balloon forecast definitions information is also available from this page, including thermal strength, lee waves strength and wind shear.



Ballooning forecasts are designed to provide additional information relevant to the specific requirements of balloonists and which is not included in other forecasts. These forecasts are therefore intended to be a supplement to, and not a substitute for other briefing information available, including AIRMETs and F215. The forecasts are not amended once issued.

Search for a ballooning location

Search for a location for balloon specific forecast data.



Ballooning location name

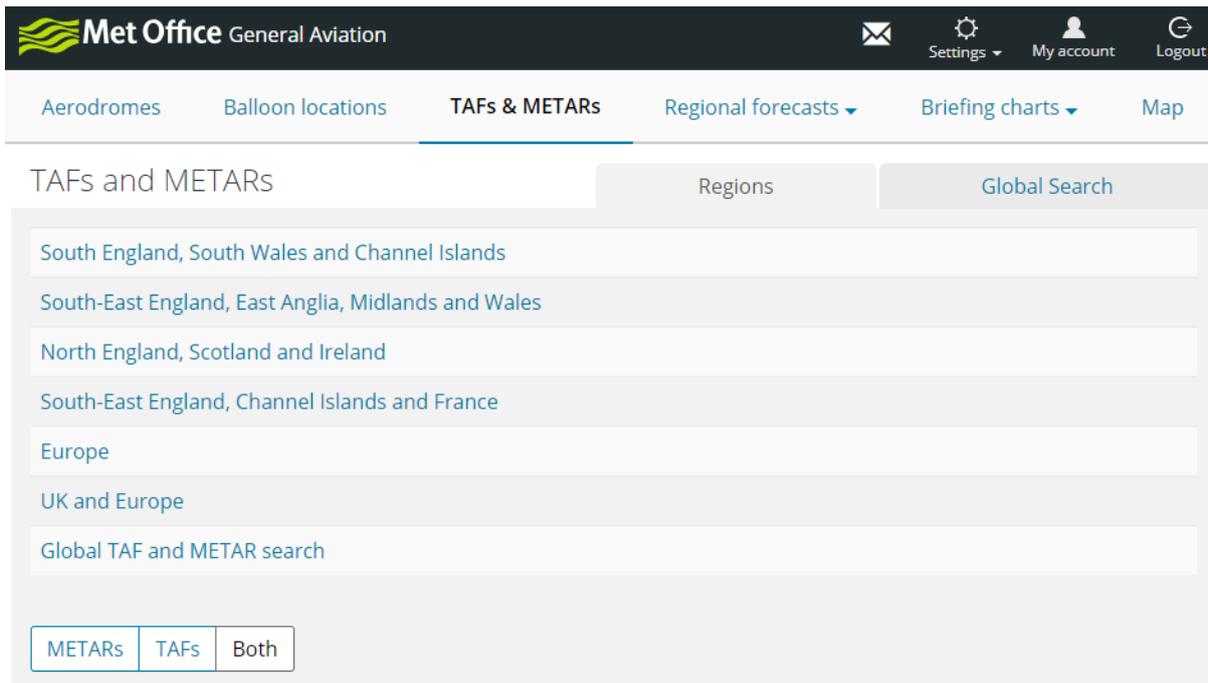
[Use your current location](#)

To view nearby locations, please enable Location Services in your device settings or browser. Mobile devices may also need a good GPS signal.

- **TAFs & METARs**

This section allows pilots to view geographical lists of TAFs and or METARs. Further detail on TAFs and METARs are provided in section 3 of this guide.

A global search function exists in the event that the aerodrome you are looking for is now available in the list.



The screenshot shows the Met Office General Aviation website interface. At the top, there is a dark navigation bar with the Met Office logo, 'General Aviation' text, and icons for Settings, My account, and Logout. Below this is a secondary navigation bar with links for Aerodromes, Balloon locations, TAFs & METARs (which is highlighted), Regional forecasts, Briefing charts, and Map. The main content area is titled 'TAFs and METARs' and features three tabs: 'TAFs and METARs', 'Regions', and 'Global Search'. The 'Regions' tab is active, displaying a list of search options: 'South England, South Wales and Channel Islands', 'South-East England, East Anglia, Midlands and Wales', 'North England, Scotland and Ireland', 'South-East England, Channel Islands and France', 'Europe', 'UK and Europe', and 'Global TAF and METAR search'. At the bottom of this list are three buttons: 'METARs', 'TAFs', and 'Both'.

- **Regional Forecasts**

This section allows pilots to access a range of area forecasts for the UK, including SIGMETs, AIRMETs, Volcanic Ash Advisories, Regional Pressure Settings and London CTA helicopter forecasts. Each of these products are described in section 3 of this guide.

- **Briefing Charts**

This section allows pilots to access a range of UK and international weather forecasts in chart form, including Surface Pressure (synoptic charts), Low Level significant weather charts & spot winds, Upper level significant weather charts and upper wind and temperature charts.

Each of these products are described in more detail in section 3 of this guide.

- **Map**

This section takes users to an interactive map from which an extensive range of observation and forecast data produced by Met Office models are available as map overlays. These layers are explored in more detail in section 4 of this guide.



Cloud heights in map layers are referenced to height above ground level.

Forecast information on map layers are automated and derived solely from Met Office models, and have no forecaster input to fine tune the data. As such, these layers are intended to provide broad guidance, and ideally should form part of a wider briefing that takes account of the scope of information available on the web site.

 Map layer data will auto-refresh every 5 minutes. On each auto-refresh the website will check whether new model data has come in, and if appropriate it will update the map layers with this new data. A refresh may be ‘forced’ by clicking the refresh button or F5 on your browser.

 The exact time at which model data comes into the website may vary slightly day to day.

2.5. Quick Link shortcuts

The grey section in the bottom half of the aviation briefing service provides users with access to range of products via a number of ‘quick links’. These include briefing charts and commonly used weather map layers. Selecting any of these links will take to directly through to that product/map layer.

Map layer quick links		
Rainfall radar	METAR observations and warnings	Lightning
Visible satellite	Infrared satellite	Forecast pressure and precipitation rate
Forecast wind and temperature	Forecast precipitation, cloud and fog	
Charts		
Surface pressure	Significant weather (low level)	Spot winds
Volcanic Ash Advisories (chart)	Significant weather (upper level)	Wind and temperature
Regional forecasts		
SIGMETs	AIRMETs	Volcanic Ash Advisories (text)

2.6. Additional Information

The black horizontal bar at the foot of the aviation briefing service provides access to a range of non-forecast information including:

- Frequently Asked Questions
- Guides

- Links to national severe weather warning
- Supported browsers, and
- How to contact and provide feedback

These are designed to provide some additional information to help users get the most from the briefing aviation briefing service.

<u>Search</u>	<u>Product Information</u>	<u>Guides</u>
<ul style="list-style-type: none">• Aerodromes• Balloon locations• TAFs and METARs	<ul style="list-style-type: none">• Statement of use• FAQ• Aerodrome warnings email alerts	<ul style="list-style-type: none">• Aviation abbreviations• METAR coding rules• TAF coding rules• Aerodrome warnings FAQ• Briefing for Balloonists
<u>Resources</u>		
<ul style="list-style-type: none">• Severe weather warnings		
Help News Contact us Terms and conditions Cookies Feedback		 © Crown copyright

3. Aviation Briefing Products

3.1. TAF & METAR lists

What information does the product provide pilots?

TAFs provide a concise summary of the most likely range weather conditions that pilots can expect at an aerodrome throughout their period of validity.

METARs provide a snapshot of the wind, visibility, weather, cloud, temperature and pressure at an aerodrome at a particular time. METARs are normally produced by a qualified observers, and many airports are increasingly utilising automated instrumentation.

When is the product issued

TAFs are routinely issued every 3 or every 6 hours, depending on the validity period of each TAF. TAFs are issued approximately 1 hour prior to the when they become valid. The issuance of a TAF is dependent upon the provision of regular and compliant METARs. All aerodromes generating METARs will normally have TAFs provided. For aerodromes that do not provide METARs 24/7 a TAF is issued shortly after the commencement of METARs in the morning.

The TAF issue times are as follows:

- 9 Hour TAFs

Start Time	End Time	Required Time of Issue
0000	0900	2300
0300	1200	0200
0600	1500	0500
0900	1800	0800
1200	2100	1100
1500	2400	1400
1800	0300	1700
2100	0600	2000

- 24 Hour TAFs

Start Time	End Time	Required Time of Issue
0000	2400	2300
0600	0600	0500
1200	1200	1100
1800	1800	1700

- 30 Hour TAFs

Start Time	End Time	Required Time of Issue
0000	0600	2300
0600	1200	0500
1200	1800	1100
1800	2400	1700

METARs are issued every 30 minutes in the UK, at 20 and 50 minutes past the hour. Around 55 UK aerodromes produce METARs - the UK AIP, section GEN 3.5 provides a list of airports producing METARs. SPECIs are not issued in the UK, though local non-routine reports are provided by aerodromes when significant changes to the weather occur between METARs, and these are made available via ATIS or R/T.

Validity period of the product

TAFs have a minimum validity period of 2 hours. Normally TAFs are valid for either 9, 24 or 30 hours. The validity period of TAFs is determined by the CAA, taking account of the nature of air traffic operating to each airport.

METARs are only valid at the time they are produced. As soon as they are issued, they are effectively out of date.



Remember that TAFs and METARs reflect the forecast and actual weather conditions *at* the aerodrome. The weather conditions en-route are often likely to vary markedly from the weather at your departure and arrival aerodromes, so don't plan your flight without considering the en-route conditions.



The values provided in TAFs are commonly thought to represent the exact forecast conditions for a particular time. In fact, whilst those values are the most likely expected, they actually account for a range of potential values. For more information on this, please take a look at [What do TAFs actually mean?](#) TAFs are continuously monitored and subject to amendment criteria when the conditions deviate beyond the prescribed limits. TAF amendments are required to be issued within 15 minutes of when significant un-forecast weather occurs, or on receipt of a METAR that breaches the TAF. This amendment criteria are described in the UK AIP, section GEN 3.5. and [GetMet](#).



Did you know that the accuracy of TAFs are monitored by the Met Office, along with a range of other measures that we assess against. The results are published, and can be viewed on our [verification](#) pages.

Example

TAFs and METARs

Regions

Global Search

South England, South Wales and Channel Islands

[Change Region](#)

List auto-refreshed: just now

EGJA ALDERNEY AIRPORT METAR EGJA 221320Z 25006KT 8000 BKN003 17/16 Q1019= TAF COR EGJA 221234Z 2212/2219 26008KT 9999 FEW006 BKN012 TEMPO 2212/2221 4000 -DZ VCFG BKN004 TEMPO 2212/2218 0500 FG BKN000 PROB30 TEMPO 2215/2218 SCT015=	METAR 13 mins. old
EGUB BENSON METAR EGUB 221250Z AUTO 21008KT 9999 // OVC023/// 22/16 Q1017= No TAF available	METAR 43 mins. old
EGKB BIGGIN HILL METAR EGKB 221320Z 24007KT 150V320 9999 BKN013 18/16 Q1018= TAF AMD EGKB 221159Z 2212/2221 26008KT 9999 BKN009 BECMG 2212/2214 SCT015=	METAR 13 mins. old
EGDM BOSCOMBE DOWN METAR EGDM 221250Z 23007KT 9999 BKN024 22/16 Q1017 WHT BECMG BKN025 BLU= TAF EGDM 221023Z 2212/2218 25008KT 9999 BKN018 BECMG 2212/2214 BKN025=	METAR 43 mins. old
EGHH BOURNEMOUTH AIRPORT METAR EGHH 221320Z 24005KT 190V330 9999 FEW016 BKN018 21/16 Q1017= TAF EGHH 221107Z 2212/2221 27007KT 9999 BKN018=	METAR 13 mins. old
EGGD BRISTOL AIRPORT METAR EGGD 221320Z AUTO 26011KT 9999 BKN014 OVC024 20/18 Q1018= TAF AMD EGGD 221307Z 2213/2312 26008KT 9999 BKN014 BECMG 2213/2215 SCT020 BECMG 2218/2221 8000 -RA BKN006 TEMPO 2220/2306 4000 RADZ BKN003 PROB40 2222/2306 0300 FG VV/// BECMG 2306/2309 9999 NSW FEW030 PROB30 TEMPO 2309/2312 27015G25KT=	METAR 13 mins. old
EGVN BRIZE NORTON	METAR 14 mins. old

3.2. Regional Forecasts

3.2.1. SIGMETs

What information does the product provide pilots?

SIGMETs provide abbreviated plain language information on a range of reported or forecast en-route weather that may be hazardous to aviation. The Met Office is designated by ICAO as a Meteorological Watch Office (MWO) and as such is responsible for issuing SIGMETs for 3 UK FIRs (London, Scottish and Shanwick). The range of weather covered by SIGMETs issued by the Met Office includes:

- Thunderstorm (TS)

- Severe Turbulence (SEV TURB), to include SEV CAT and SEV Low Level Turbulence
- Icing
- Mountain Wave (SEV MTW)
- Volcanic Ash (VA)

SIGMETs issued by other State Meteorological service providers are available to premium subscribers.



The phenomenon that UK airspace experienced on 16th October 2017, during which smoke from forest fires on the Iberian peninsula were drawn up into UK airspace, impacted the operation of a number of aircraft. As a consequence and following discussions with the Met Authority, CAA, the Met Office have commenced the provision of 'Smoke SIGMETs' in order to provide timely information on this potential hazard to aviators in the event of a widespread smoke event in future. Please visit our [pilot resource portal](#) for more information.

When is the product issued

A SIGMET will be issued when the conditions listed above are expected to occur within the FIRs that the Met Office is responsible, or upon receipt of an AIREP (Air Report) provided by an airline.

Validity period of the product

SIGMETs are normally valid for a maximum of 4 hours.

Example

[Aerodromes](#)
 [Balloon locations](#)
 [TAFs & METARs](#)
 [Regional forecasts ▼](#)
 [Briefing charts ▼](#)
 [Map](#)

SIGMET Bulletins

Filter by FIR Filter by phenomena

EBBU BRUXELLES

Phenomena: Embedded thunderstorm(s) Valid from: Wed 29 Aug 2018 - 13:05 UTC Valid to: Wed 29 Aug 2018 - 17:05 UTC
 EBBU SIGMET 01 VALID 291305/291705 EBBR- EBBU BRUSSELS FIR EMBD TS OBS S OF N5020 TOP FL350 MOV NE25KT NC =

LFEE REIMS

Phenomena: Embedded thunderstorm(s) Valid from: Wed 29 Aug 2018 - 12:40 UTC Valid to: Wed 29 Aug 2018 - 15:00 UTC
 LFEE SIGMET 2 VALID 291240/291500 LFPW- LFEE REIMS FIR/UIR EMBD TSGR OBS WI N4715 E00430 - N4730 E00415 - N4830 E00530 - N4900 E00445 - N4900 E00500 - N4815 E00545 - N4645 E00530 - N4715 E00430 TOP FL320 MOV NE 25KT INTSF=

LFFF PARIS

Phenomena: Embedded thunderstorm(s) Valid from: Wed 29 Aug 2018 - 12:40 UTC Valid to: Wed 29 Aug 2018 - 15:00 UTC
 LFFF SIGMET 10 VALID 291240/291500 LFPW- LFFF PARIS FIR/UIR EMBD TSGR OBS WI N4900 E00500 - N4900 E00445 - N4830 E00530 - N4730 E00415 - N4715 E00430 - N4830 E00145 - N5015 E00330 - N4900 E00500 TOP FL320 MOV NE 25KT INTSF=

LSAS SWITZERLAND

Phenomena: Embedded thunderstorm(s) Valid from: Wed 29 Aug 2018 - 13:10 UTC Valid to: Wed 29 Aug 2018 - 15:10 UTC
 LSAS SIGMET 1 VALID 291310/291510 LSZH- LSAS SWITZERLAND FIR/UIR EMBD TS OBS WI N4714 E00742 - N4557 E00809 - N4552 E00727 - N4703 E00700 - N4714 E00742 TOP FL300 MOV NE 20KT NC=

[Aerodromes](#)
 [Balloon locations](#)
 [TAFs & METARs](#)
 [Regional forecasts ▼](#)
 [Briefing charts ▼](#)
 [Map](#)

SIGMET Bulletins

Filter by FIR Filter by phenomena

LFMM MARSEILLE

Phenomena: Embedded thunderstorm(s) Valid from: Wed 22 Aug 2018 - 12:30 UTC Valid to: Wed 22 Aug 2018 - 14:00 UTC
 LFMM SIGMET 1 VALID 221230/221400 LFPW- LFMM MARSEILLE FIR/UIR EMBD TSGR OBS WI N4345 E00730 - N4315 E00545 - N4330 E00445 - N4430 E00530 - N4400 E00600 - N4345 E00730 TOP FL390 STNR NC=

3.2.2. GAMETs

What information does the product provide pilots?

GAMETs are text based regional forecasts, covering a 9 hour period, and describe the following meteorological aspects (up to 15000 feet above mean sea level for forecast present weather and cloud information):

- Met situation
- Strong wind warning (surface winds greater than 20 knots, including gusts)
- Freezing level
- Weather including visibility, present weather and cloud information, and warnings of significant¹ meteorological phenomena
- Winds for selected locations² at (1000, 3000 & 6000ft agl)
- Regional outlook for the 6 hour period after the forecast validity period
- UK outlook for the 24 hour period following the regional outlook

¹ Hill Fog, In Cloud Icing and Turbulence, Low level Turbulence, Mountain Waves, Snow on Mountains, Squall, Line Squall

² Selected wind and temperature profile locations as follows:

GAMET South East: Norwich, Southampton, Oxford, Gatwick

GAMET South West: Plymouth, Exeter, Bristol, Cardiff

GAMET Central: Birmingham, Manchester, Humberside, Newcastle

GAMET North: Glasgow, Aberdeen, Inverness, Kirkwall

The Met Office provides 4 such forecasts, covering different parts of the UK and including specific forecasts of significant weather, outlook and upper wind information:

- Southeast forecast: Area to the East of Southampton-Oxford-Northampton-The Wash
- Southwest forecast: Area to the West of Southampton-Oxford-Leamington Spa-Llanbedr
- Central forecast: North of area covered by Southeast and Southwest areas up to a line from Carlisle to Berwick
- North forecast: North of area covered by Central area including Northern Ireland

The content of GAMETs are designed to be broadly consistent with the content of the F215 (low level significant weather charts).

When is the product issued

GAMETs are issued 4 times each day, as follows:

GAMET area forecast	Issue time	Validity period	Met situation validity time	Regional outlook period	Spot wind validity times	UK outlook period
All GAMETs (North, Central, SW & SE)	0400	08-17	1200	18-00	09, 12, 15	00-24
	1000	14-23	1800	00-06	15, 18, 21	06-06
	1600	20-05	0000	06-12	21, 00, 03	12-12
	2200	02-11	0600	12-18	03, 06, 09	18-18

Validity period of the product

The validity of GAMETs are 9 hours.

Example

	GAMET Area Forecast
---	----------------------------

GAMET South East Region Issued on Thursday 29 July 2021 at 09:00 UTC
--



Valid for 1400-2300 UTC

Met Situation Valid at 1800 UTC A MOD W TO SW FLOW ACROSS THE REGION. A LOW IS CENTRED N5120 W00700, MOV NE AT 25KT.
--

Strong wind warning ISOL ENGLISH CHANNEL AND SEA COT S TL 16Z AND ISOL SEA COT E TL 21Z, MEAN 15-20KT GUST 25-30KT.

Freezing Level 8000FT N, 10000FT S.

Weather Conditions Zone 1 SW OF A LINE CHELTENHAM TO LONDON TO EASTBOURNE TO SAINT-LO, MOV NE AT 25-30KT. GEN 25KM, WITH 3-5/8CUSC 3000FT/8000 AND 5-7/8ACAS 8000FT/16000. ISOL 6KM IN RA OR SHRA, WITH 3-5/8ST 1000FT/1500 AND 5-7/8CUSC 2000FT/8000
--

Meteorologist: Aviation, Tel: 0370 900 0100
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AND 5-7/8ACAS 8000FT/18000.
 WRNG: HILL FG. MOD ICE AND MOD TURB IN CLD.

Zone 2

REST OF REGION:
 GEN 40KM, WITH 1-5/8CUSC 2500-3500FT/6000 AND IN FAR SW, 5-8/8ACAS 8000FT/16000.
 ISOL 7KM IN SHRA, WITH 0-5/8ST 700-1000FT/1500 AND 6/8CU 2000FT/10000.
 WRNG: HILL FG. MOD ICE AND MOD TURB IN CLD.

Wind

Norwich			
Height (above ground level) / time (UTC)	1500	1800	2100
1000ft	260 25 KT +18	260 20 KT +18	250 15 KT +17
3000ft	260 25 KT +12	260 25 KT +12	260 20 KT +11
6000ft	260 25 KT +03	260 25 KT +03	250 20 KT +03

Southampton			
Height (above ground level) / time (UTC)	1500	1800	2100
1000ft	240 20 KT +15	230 15 KT +14	210 15 KT +14
3000ft	250 20 KT +10	230 20 KT +09	230 20 KT +09
6000ft	260 20 KT +03	240 15 KT +04	220 25 KT +06

Oxford			
Height (above ground level) / time (UTC)	1500	1800	2100
1000ft	260 20 KT +17	250 15 KT +15	220 15 KT +14
3000ft	260 20 KT +11	240 15 KT +10	220 15 KT +09
6000ft	260 20 KT +02	250 15 KT +03	220 15 KT +04

Gatwick			
Height (above ground level) / time (UTC)	1500	1800	2100
1000ft	240 20 KT +16	230 20 KT +15	230 15 KT +14
3000ft	250 20 KT +10	250 20 KT +09	240 20 KT +10
6000ft	270 20 KT +02	260 15 KT +04	230 20 KT +05

Regional Outlook (Valid 0000-0600 UTC)
 RA AND SHRA BECMG OCNL IN SW FM 00Z. ISOL HVY RA AND SHRA MOV INTO SW OF REGION BY 01Z AND MOV NE ACROSS REGION, OTHERWISE SIMILAR.

UK Extended Outlook (Valid 0600-0600 UTC)
 UNSTABLE CONDITIONS OVER NORTHERN UK, WITH ISOL SHRA. FINE CONDITIONS OVER SE UK. SMALL LOW PRESSURE SYSTEM LIES CENTRED NEAR BRISTOL AT 06Z, THEN REACHING EAST ANGLIA BY 15Z BEFORE CLEARING E INTO NORTH SEA BY 00Z. A BAND OF FRONTAL CLOUD AND RAIN ASSOCIATED WITH THIS LOW BRINGS OUTBREAKS OF RA, LCA HVY, TO S UK NEAR LOW, REACHING AS FAR N AS A LINE LAKE DISTRICT TO NE ENGLAND. UNSTABLE

Meteorologist: Aviation, Tel: 0370 900 0100
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CONDITIONS DEVELOP OVER REGION, WITH ISOL SHRA. WINDS GEN LIGHT TO MOD, BUT LCA FRESH W IN THE S. WINDS STRONG, LCA GALE FORCE TO SEVERE GALE FORCE S AND W OF LOW, AND CYCLONIC AROUND SMALL LOW PRESSURE SYSTEM IN SW, AND THROUGHOUT THE PERIOD.

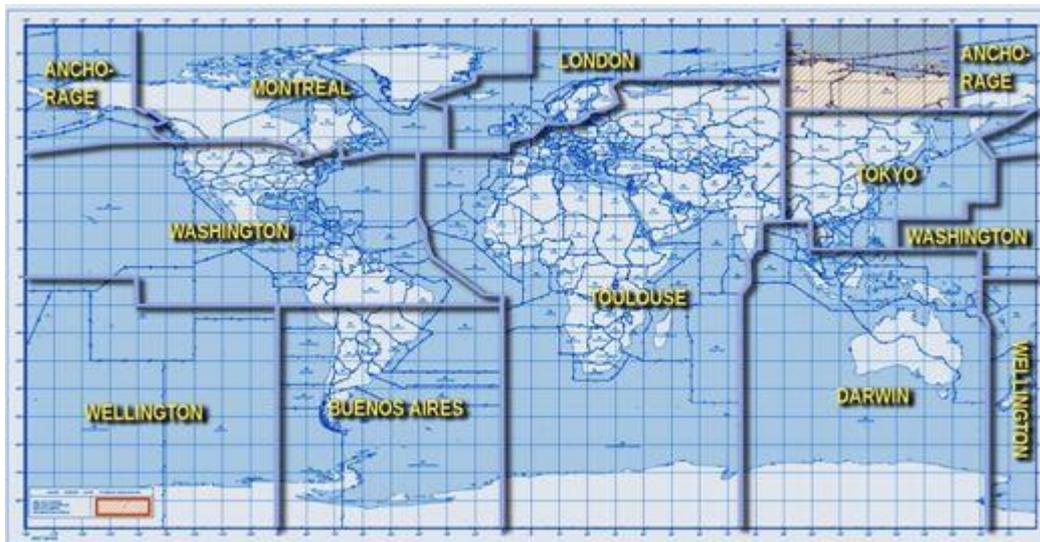
3.2.3. Volcanic Ash Advisories

What information does the product provide pilots?

A text based product (Volcanic Ash Advisory) and equivalent graphic (Volcanic Ash Graphic) are generated to inform the aviation community of areas affected by volcanic ash contamination, in the event that volcanic activity results in the release of ash into the atmosphere. These products will describe the current vertical and horizontal event of ash in the atmosphere, and its expected trajectory.

 The Met Office is one of 9 Volcanic Ash Advisory centres, designated by ICAO. Our area of responsibility covers UK airspace and the northeast Atlantic, including Iceland. The Met Office engages closely with the Icelandic Met Office and uses a dispersion model to help predict the trajectory of released ash. We can also call upon a civil contingency aircraft and ground based equipment to observe the concentration and extent of ash.

Hazards from ash include possible engine failure due to ingestion of a range of different sized volcanic particles that can quickly damage engines to the extent that they may not necessarily be restarted. Additionally, noxious fumes that may affect aircrew/passengers.



When is the product issued

The objective of these alerts is to prevent flight into hazardous volcanic ash so these products are issued as quickly as is possible following an eruption. Subsequent issues will be issued at 0030, 0630, 1230 and 1830 for as long as the eruption and/or ash continues to exist and pose a hazard.

Validity period of the product

The products will be valid for 6 hourly timesteps (T+0, T+06, T+12 and T+18). The product will be re-issued if there are significant changes to the eruption strength, particularly increases in eruption activity.

Example

[Aerodromes](#)
 [Balloon locations](#)
 [TAFs & METARs](#)
 [Regional forecasts ▼](#)
 [Briefing charts ▼](#)
 [Map](#)

Volcanic Ash Advisories

Select advisory centre:

All ▼

EGRR London

No advisories issued for London VAAC

LFPW Toulouse

No advisories issued for Toulouse VAAC

3.2.4. Regional Pressure Settings

What information does the product provide pilots?

This product provides a forecast of the lowest pressure expected to occur in the hour HH+1hour to HH+2hours for a number of defined areas, as described below

Puffin	Shetland	Marlin	Skerry	Petrel
Portree	Orkney	Ratray	Belfast	Tyne
Skua	Holyhead	Barnsley	Humber	Scillies
Wessex	Cotswold	Chatham	Yarmouth	Portland

When is the product issued

These forecasts are issued hourly, between 70 to 75 minutes prior to their validity.

Validity period of the product

One hour.

Be aware/did you know



An illustration of the geographical extent of each area is provided in the UK AIP (ENR section), and reproduced below.

UNITED KINGDOM ALTIMETER SETTING AND FLIGHT INFORMATION REGIONS



Example

[Aerodromes](#)
[Balloon locations](#)
[TAFs & METARs](#)
[Regional forecasts ▾](#)
[Briefing charts ▾](#)
[Map](#)

Regional Pressure Settings Regions

Region	Current Period 22 Aug 2018 13:00 - 22 Aug 2018 14:00	Next Period 22 Aug 2018 14:00 - 22 Aug 2018 15:00
Skerry	1004 hPa	1003 hPa
Portree	1005 hPa	1004 hPa
Ratray	1006 hPa	1006 hPa
Tyne	1007 hPa	1007 hPa
Belfast	1008 hPa	1007 hPa
Holyhead	1009 hPa	1010 hPa
Barnsley	1009 hPa	1009 hPa
Humber	1009 hPa	1009 hPa
Scillies	1013 hPa	1013 hPa
Wessex	1012 hPa	1012 hPa
Chatham	1011 hPa	1011 hPa
Portland	1014 hPa	1013 hPa
Yarmouth	1011 hPa	1011 hPa
Cotswold	1012 hPa	1011 hPa
Shetland	1001 hPa	1001 hPa
Orkney	1005 hPa	1005 hPa
Marlin	1001 hPa	1001 hPa
Petrel	1004 hPa	1005 hPa
Skua	1007 hPa	1007 hPa
Puffin	996 hPa	997 hPa

3.2.5. London CTA Helicopter forecast

What information does the product provide pilots?

This is an area forecast covering the London CTA, provided to support commercial, private and emergency helicopter operations.

The forecast draws attention to the potential for one or more of the following meteorological thresholds to be breached:

- A cloud base of 1000 feet or less;
- Surface visibility of 3000 metres or less.

A colour coded summary of the forecast risk is presented, describing the extent and period of time that either of the above thresholds are expected to be breached. The forecast also summarises the freezing level over the forecast area and an outlook.

The overall area covered is the London CTR and London/City CTR as published in the UK AIP. This area is split into 4 zones, with advisories issued for each zone

When is the product issued

The forecasts are issued routinely every 6 hours, but may also be amended subject to defined criteria:

Time of Issue (UTC)
0215-0230
0815-0830
1415-1430
2015-2030

Validity period of the product

Time of Issue (UTC)	Validity Period (UTC)	Outlook (UTC)
0215-0230	0300-0900	0900-1500
0815-0830	0900-1500	1500-2100
1415-1430	1500-2100	2100-0300
2015-2030	2100-0300	0300-0900

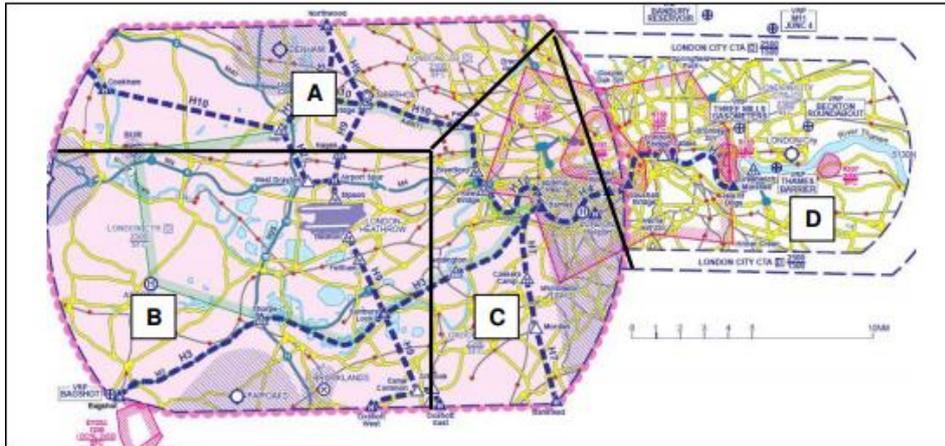
Be aware/did you know

 The thresholds that these forecasts focus on are intended to help helicopter operators mitigate the risk of flight into high buildings and other obstacles over the London area.

Example

London CTA Helicopter Forecast

Issued on Thursday, 23 August 2018 at 08:29 UTC



	Forecast for period 0900-1500 UTC	Outlook for period 1500-2100 UTC
A	Cloud bases will be 500-700FT until 1000UTC Visibilities expected to be above 3000M now drizzle is clearing but may drop temporarily to 5000M in second band arriving before 1000UTC	Cloud bases above 1000FT. Visibilities greater 3000M.
B	Cloud bases will be 500-700FT until 1000UTC Visibilities expected to be above 3000M now drizzle is clearing but may drop temporarily to 5000M in second band arriving before 1000UTC	Cloud bases above 1000FT. Visibilities greater 3000M.
C	Cloud bases will drop to 500ft in rain and drizzle with few amounts possibly reaching 400ft. Visibilities are expected to drop to 3000M with 2000M in heavier bursts this clearing by 1000UTC	Cloud bases above 1000FT. Visibilities greater 3000M.
D	Cloud bases will drop to 500ft in rain and drizzle with few amounts possibly reaching 400ft. Visibilities are expected to drop to 3000M with 2000M in heavier bursts this clearing by 1030-1100UTC	Cloud bases above 1000FT. Visibilities greater 3000M.

Altitude Above Mean Sea Level.

Freezing Level Across the CTA 0900-1500 UTC:	11000 FT
---	----------

Meteorologist: Aviation, Tel: 0370 900 0100

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3.3. Briefing charts

3.3.1. Surface Pressure

What information does the product provide pilots?

These charts display the current and forecast synoptic situation over Europe and the Atlantic.

Each display offers the user the ability to view the synoptic situation for the following 3 days. (5 days for premium subscribers. The charts provide a useful top level summary of the current and forecast synoptic situation over the UK and North Atlantic and can be used to assess the likely track of deep depressions for example, that might present particular operational challenges.

When is the product issued

These charts are updated twice per day.

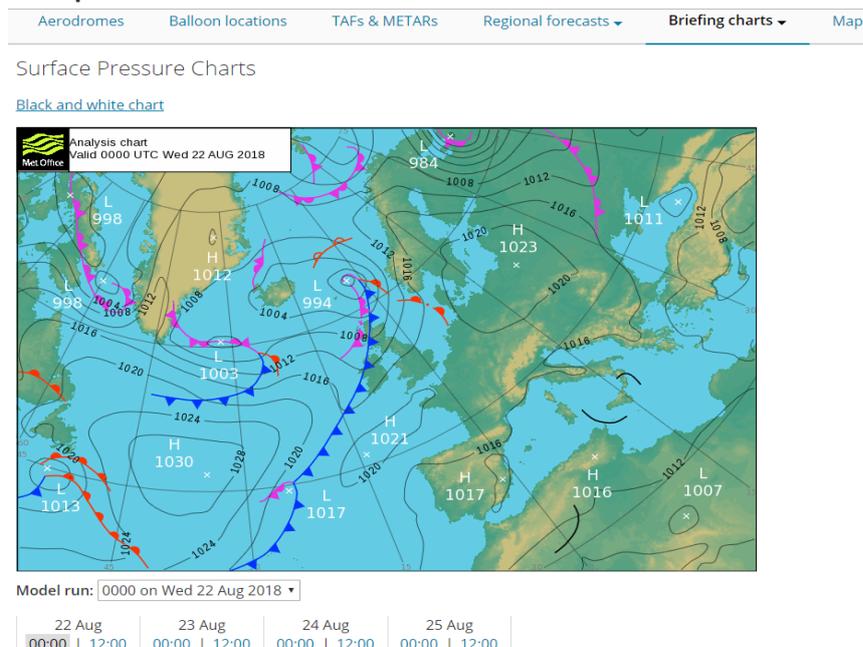
Validity period of the product

The synoptic charts are valid at 1200 UTC and 2400 UTC each day.

Be aware/did you know

i Having a basic understanding of fronts and air masses can be incredibly useful in providing a top level overview of the weather. Whilst no front or air mass is identical, they do provide a number of common weather features. For more information on interpreting synoptic charts, weather fronts and air masses please take a look at the section on the [pilot resource portal](#).

Example



3.3.2. Significant Weather (Low level) & Spot Winds

a. Significant Weather (Low level)

What information does the product provide pilots?

The purpose of these charts is to display both graphically and alphanumerically areas of weather across the UK. Information supplied by these charts covers the expected conditions between the surface and 10,000ft. The chart is commonly referred to as a F215, and often conveys a great deal of weather information on a single page, so abbreviated plain language is used.

On the left hand side of the chart a map provides the forecast positions of the fronts, their speed of movement and areas of weather for a specified validity time.

On the right hand side of the chart, the areas of weather are highlighted as A,B,C etc. Alongside these, a description of surface visibility, weather and cloud is provided. Finally, the height of the 0 degree Celsius isotherm for each area is shown on the right. Additional information on likely icing and turbulence is also provided.

These charts are a staple of the GA community and are used to highlight areas of poor visibility, and low cloud that pilots may wish to avoid along their flying route.

When is the product issued

Issued 4 times a day, every 6 hours.

Validity period of the product

Validity time	Approx time of update
2000 UTC to 0500 UTC	Daily at about 1530
0200 UTC to 1100 UTC	Daily at about 2130
0800 UTC to 1700 UTC	Daily at about 0330
1400 UTC to 2300 UTC	Daily at about 0930

Be aware/did you know

 A detailed decode and worked example of a F215 is available from the [pilot resource portal](#).

 Remember, the heights provided on these charts are reference to mean sea level. Please consider the ground elevation along the route that you are taking.

Low level significant weather and Spot Wind charts

Important note

[Close X](#)

Warning: it is the responsibility of the users of this service to ensure that charts selected are valid for the time and date of use.

F215 UK low-level forecast chart

- [02:00 - 11:00 UTC](#)
Data available 22 Aug 2018 after 21:00 UTC
- [08:00 - 17:00 UTC](#)
Last updated: 22 Aug 2018 - 03:16 UTC
- [14:00 - 23:00 UTC](#)
Last updated: 22 Aug 2018 - 09:16 UTC
- [20:00 - 05:00 UTC](#)
Data available 22 Aug 2018 after 15:00 UTC

F214 UK Spot wind forecast chart

- [03:00 - 09:00 UTC](#)
Data available 22 Aug 2018 after 22:00 UTC
- [09:00 - 15:00 UTC](#)
Last updated: 22 Aug 2018 - 04:55 UTC
- [15:00 - 21:00 UTC](#)
Last updated: 22 Aug 2018 - 10:56 UTC
- [21:00 - 03:00 UTC](#)
Data available 22 Aug 2018 after 16:00 UTC

F415 European low-level forecast chart

- [02:00 - 11:00 UTC](#)
Data available 22 Aug 2018 after 21:00 UTC
- [08:00 - 17:00 UTC](#)
Last updated: 22 Aug 2018 - 03:10 UTC
- [14:00 - 23:00 UTC](#)
Last updated: 22 Aug 2018 - 09:01 UTC
- [20:00 - 05:00 UTC](#)
Data available 22 Aug 2018 after 15:00 UTC

F414 European Spot wind forecast chart

- [03:00 - 09:00 UTC](#)
Data available 22 Aug 2018 after 22:00 UTC
- [09:00 - 15:00 UTC](#)
Last updated: 22 Aug 2018 - 04:55 UTC
- [15:00 - 21:00 UTC](#)
Last updated: 22 Aug 2018 - 10:56 UTC
- [21:00 - 03:00 UTC](#)
Data available 22 Aug 2018 after 16:00 UTC

Usage of Briefing Charts - [Guide to Met Office Briefing Charts](#)

Briefing chart

[Download Pdf \(120KB\)](#)

Forecast Weather below 10000 FT

Met Office Valid 220800 to 221700 Z AUG 18 Fronts/zones valid at 221200 Z

AREA	SURFACE VIS AND WX	CLOUD	0 C
A	35 KM NIL ISOL (OCNL A1) 7 KM SHRA ISOL 3000 M +SHRA A1 ISOL A. NW ISOL HILL FG	BKN/OVC AC AS Ψ A. 080 / XXX A1 AREAS SCT/BKN CU SC Ψ A. 015-035 / 050-090 (XXX A1) ISOL SCT/BKN ST 007-012 / 015 MAINLY A1	040-060 NW 080-XXX SE
B	15 KM NIL/-RA OCNL (WDSR UPSLOPES N) 7 KM RA ISOL 4000 M +RA MAINLY COLD FRONT ISOL (OCNL SEA WINDWARD COT AND UPSLOPES) 3000 M RADZ/BR MTW MAX VSP 500 FPM AT 080 NE OCNL A. NE OCNL HILL FG	BKN/OVC AC AS Ψ A. 080 / XXX BKN/OVC (LCA FEW/SCT LEE MON) CU SC A. 015-030 / 050-080 WDSR (ISOL/NIL LEE MON) SCT/BKN ST 004-010 / 015 (LCA BASE 002 SEA WINDWARD COT)	090-XXX
C	20 KM NIL ISOL 7 KM SHRA E ENGLAND N OF 52 N FM 15 Z OCNL 3000 M BR/-DZ C1 (AND ISOL SEA WINDWARD COT) (AND ISOL LAN TL 09 Z) ISOL 200 M FG SEA WINDWARD COT C1 ISOL (WDSR C1) HILL FG	AREAS SCT/BKN CU SC A. 015-035 / 040-060 (XXX E ENGLAND N OF 52 N FM 15 Z) WDSR SCT/BKN ST 003-010 / 015 C1 (AND ISOL SEA WINDWARD COT) (AND ISOL LAN TL 11 Z) (BASE 000 FG)	XXX
D	25 KM NIL ISOL 2000 M BR LAN TL 09 Z ISOL HILL FG	ISOL SCT/BKN CU SC A. 020-050 / 080 ISOL SCT/BKN ST 005-010 / 015 LAN TL 09 Z	XXX

All heights in 100s of feet above mean sea level

XXX means above chart upper limit

Speed of movement in KT

Hill FG implies VIS <200 M

MOD / SEV ICE $\Psi\Psi\Psi$

MOD / SEV TURB $\Delta\Delta\Delta$

TS / CB implies GR / $\Psi\Psi$ / A

FZ precipitation implies $\Psi\Psi$

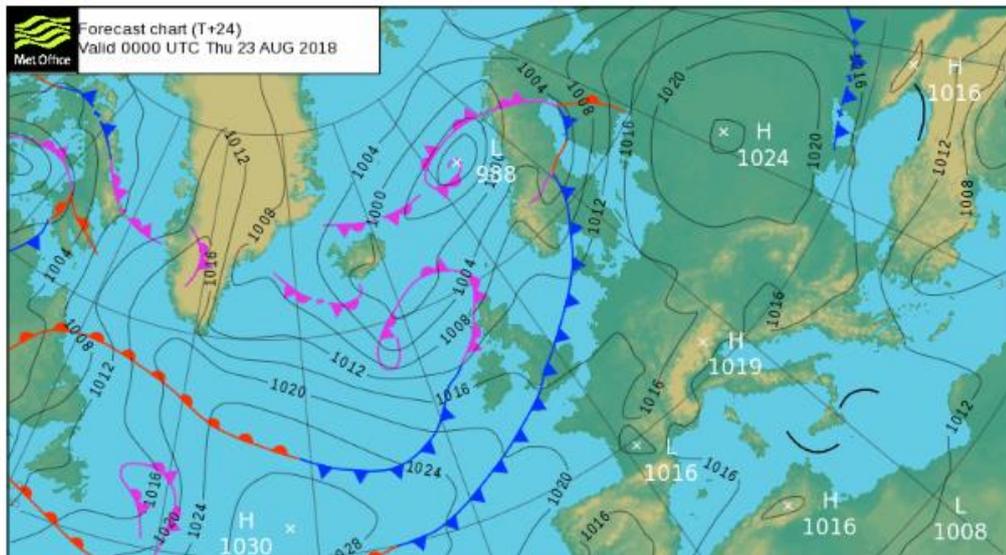
Cloud amount (Oktas)

FEW: 1-2 SCT: 3-4

BKN: 5-7 OVC: 8

This forecast may be amended at any time.
 Issued by Met Office Exeter at 220315 Z
 Contact telephone 0370 900 0100 F215
 Forecaster: Duty Forecaster © Crown copyright 2018

Outlook Until 222400 Z.
SIMILAR.



b. Spot Winds

What information does the product provide pilots?

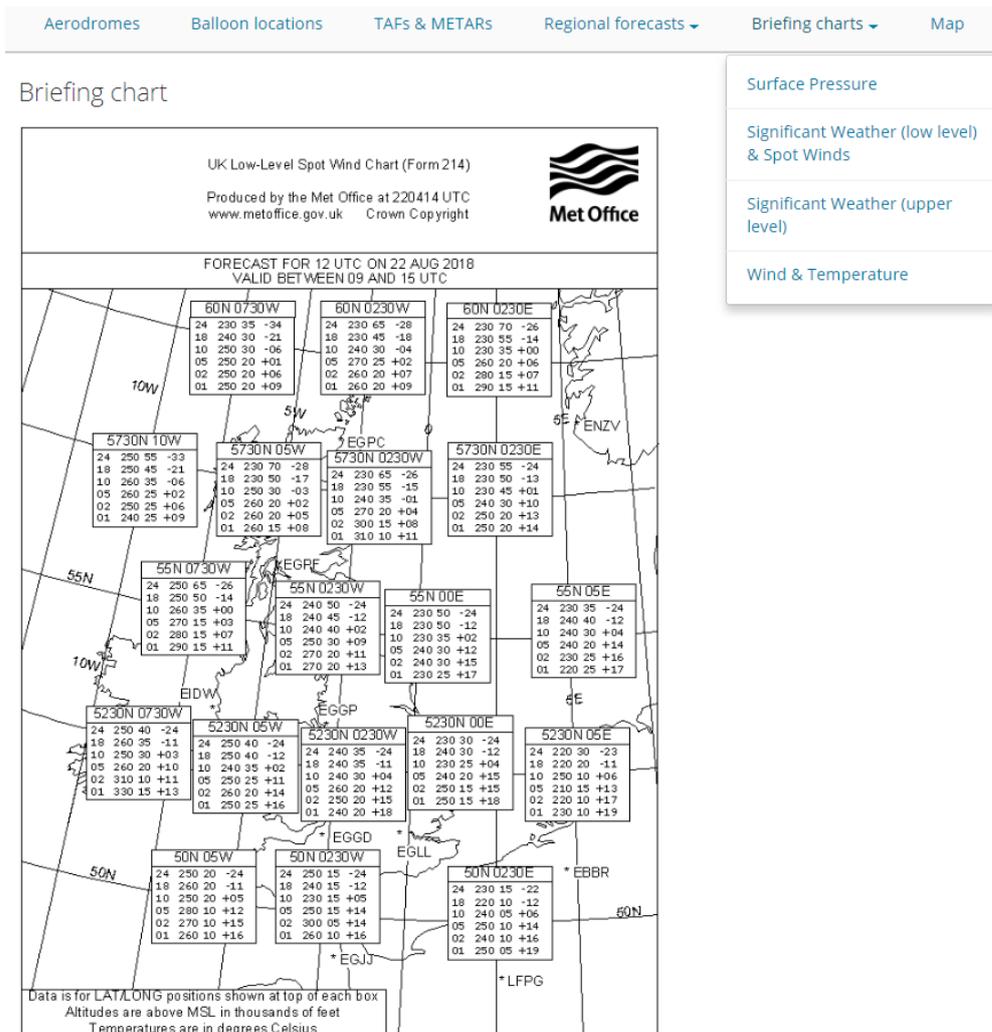
This product displays forecast wind speed & direction, and temperatures in boxes at particular grid points over the UK. These boxes provide a profile of wind and temperature from 1,000ft to 24,000ft.

When is the product issued

Issued 4 times a day, every 6 hours.

Validity period of the product

Validity period	Approximate time of issue
2100 – 0300 UTC	1800 UTC
0300 – 0900 UTC	0000 UTC
0900 – 1500 UTC	0600 UTC
1500 – 2100 UTC	1200 UTC



- Surface Pressure
- Significant Weather (low level) & Spot Winds
- Significant Weather (upper level)
- Wind & Temperature

3.3.3. Significant Weather (upper level) premium subscribers

What information does the product provide pilots?

Forecasts of Upper level significant weather phenomena are provided as charts for a number of regions covering the globe.

The regions covered are as follows:

- EURSAM (ICAO Area B) FL250-FL630
- EURAFI (ICAO Area C) FL250-FL630
- EURASIA (ICAO Area D) FL250-FL630
- INDOC (ICAO Area E) FL250-FL630
- MID (ICAO Area G) FL250-FL630
- NAT (ICAO Area H) FL250-FL630
- SIO (ICAO Area K) FL250-FL630
- EUR FL100-FL450
- MID FL100-FL450
- ASIA SOUTH FL100-FL450

When is the product issued

Charts are updated four times per day at the following times

Time of issue (UTC)	Model data used
between 0640 to 0655 UTC	0000
between 1240 to 1255 UTC	0600
between 1840 to 1855 UTC	1200
between 0040 to 0055 UTC	1800

Validity period of the product

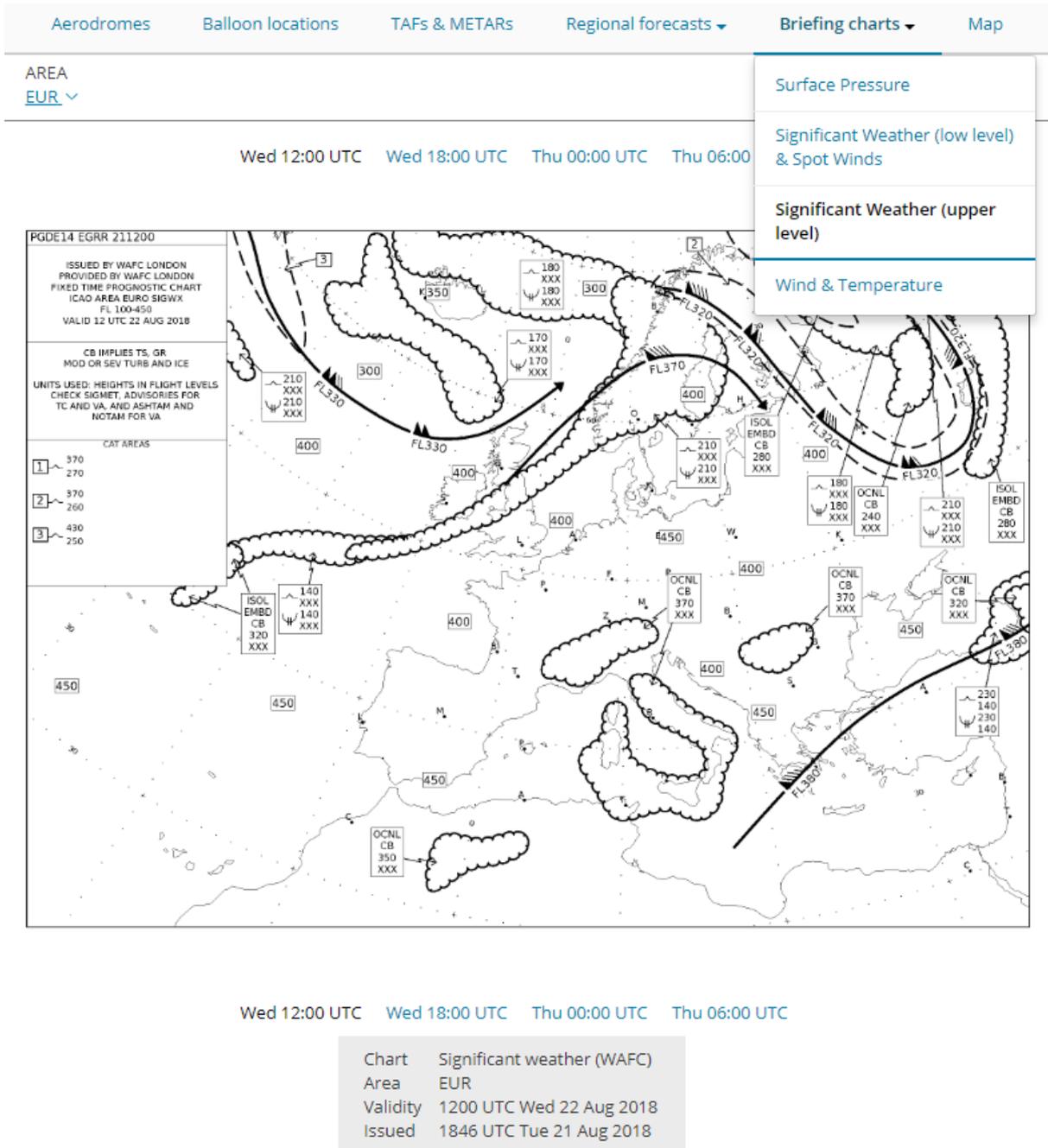
The charts are provided for 'fixed validity times' at 6 hourly intervals for the next 24 hours. The forecasts are 'usable' for a period of time extending from 3 hours before to 3 hours after the stated 'fixed' validity time.

Be aware/did you know

 The Met Office is one 2 World Area Forecast Centres (WAFC), which are responsible for producing global upper level wind, temperature and significant weather products. The other is WAFC Washington based in Kansas.

Guidance on interpreting the features commonly seen on these charts is provided in the [pilot resource portal](#).

Example



3.3.4. Wind & Temperature premium subscribers

What information does the product provide pilots?

Upper level gridded wind and temperature charts are provided for 3 regions: Europe (EUR), North Atlantic (NAT) and middle east (MID). Data is selectable for 9 difference flight levels.

When is the product issued

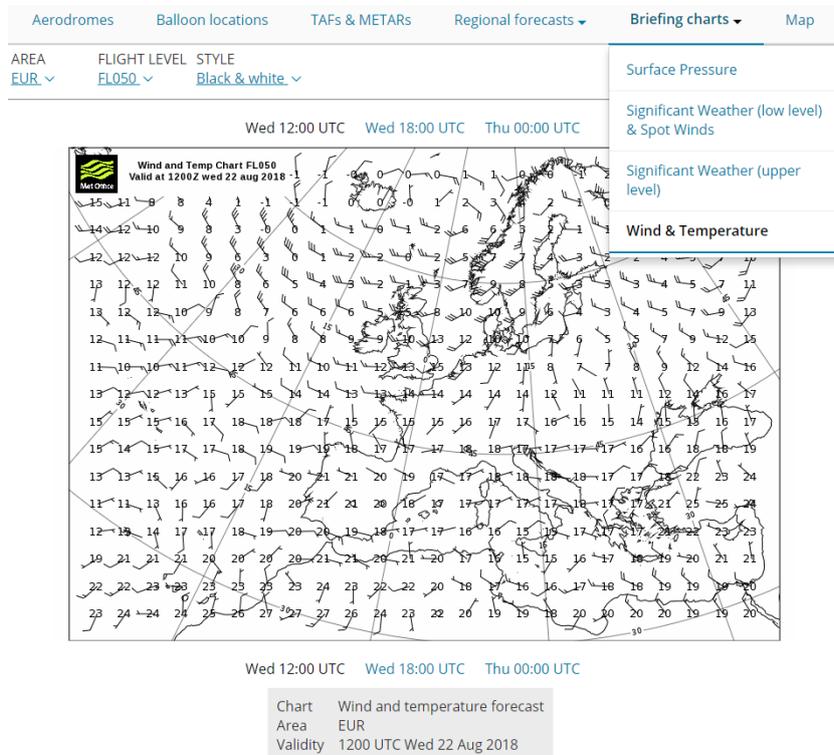
Charts are updated four times per day at the following times

Time of issue (UTC)	Model data used
between 0330 to 0420 UTC	0000
between 0930 to 1020 UTC	0600
between 1530 to 1620 UTC	1200
between 2130 to 2220 UTC	1800

Validity period of the product

The charts are provided for 'fixed validity times' at 6 hourly interval for the next 24 hours. The forecasts are 'usable' for a period of time extending from 3 hours before to 3 hours after the stated 'fixed' validity time.

Example



3.4. Balloonists forecasts

What information does the product provide pilots?

- a. Ballooning forecasts provide specific meteorological information, not available from other more general forecasts, to enable balloonists to safely plan both commercial and private flights.

Forecasts are provided for 91 locations in hourly timesteps, and the following information is included in these forecasts:

- i. Wind speed and direction at SFC, 500ft, 1000ft and 2000ft
- ii. Air temperature at SFC, 500ft, 1000ft and 2000ft
- iii. Thermal strength
- iv. Wind shear
- v. Pressure (QNH)
- vi. Humidity

The product also provides local area forecasts of rotors, lee waves, inversions, sea breeze activity, outlook and summary.

- b. Additionally, regional 'graphical wind and temperature profiles' for each balloon launch site are provided. Wind and temperature information is presented for 500, 1000 and 2000 feet above ground level.

When is the product issued

- a. Ballooning text forecast issue times and periods of validity are as follows:

- **Winter** Schedule (applicable between 16 October to 14 March)

<i>Forecast</i>	<i>Issue time (local)*</i>	<i>Period of validity</i>	<i>Outlook</i>
Morning	20:30 previous day	05:00-10:00	Midday to Dusk
Morning	02:30	06:00-11:00	Midday to Dusk
Afternoon/Evening	08:30	12:00-17:00	Dawn to Midday next day
Afternoon/Evening	14:30	12:00-17:00	Dawn to Midday next day

- **Summer** Schedule (between 15 March to 15 October)

<i>Forecast</i>	<i>Issue time (local)*</i>	<i>Period of validity</i>	<i>Outlook</i>
Morning	20:30 previous day	05:00-10:00	Three hours before dusk until dusk
Morning	02:30	05:00-10:00	Three hours before dusk until dusk

Afternoon/Evening	08:30	16:00-21:00	Dawn to 3 hours after dawn next day
Afternoon/Evening	14:30	16:00-21:00	Dawn to 3 hours after dawn next day

b. Regional graphical wind & temperature profiles:

The product is valid at 0600 and 1800 UTC between 15 March and 15 October and at 0900 and 1500 UTC between 16 October and 14 March). They updated at 0230, 0830, 1430 and 2030 UTC.

**note that all times are UTC and that updated forecasts will be available on the website after a short period after the time of issue*

Validity period of the product

Please see above.

Be aware/did you know

 The Met Office and CAA have summarised the information available for balloonists and a sensible approach to pre-flight briefing in the [pilot resource portal](#).

 **Gusts:** The wind gust values used in the ballooning forecasts are calculated from a high resolution model and should give a good guide to gusts in the type of light wind conditions that balloonists are interested in. However there are a few things to be aware of:

- When the mean wind speed is >15kt the gust speeds shown tend to be higher than is realistic. Please note that where you see gust speeds elsewhere on Met Office products they calculate gust speeds in a different way, which gives more accurate values at higher mean wind speeds.
- The high resolution model used to calculate the gust speeds is able to forecast heavy showers/thunderstorms and downdraughts. This means that from time to time there may be a unusually strong gust shown for a forecast site near to one of these forecast showers/thunderstorms when in general the forecast winds are light. Please be aware that showers/thunderstorms may not always form in the exact location shown in the forecast, and the potential for these strong gusts will move with it.

Example

Ballooning forecast - Bristol

Issued: Tue 04 September 2018 0830 UTC

[View location on map](#)

Tue AM	Tue PM	Wed AM
--------	---------------	--------

Area Forecast: SOUTHWEST

Forecast period: 04 SEPTEMBER 2018 1600-2100 UTC

Regional Summary

For most areas moderate northerly or north-northeasterly winds. For West Wales and the north coast of Cornwall, strong northerly winds. In western areas cloudy, with broken or overcast stratus, hill fog and patchy drizzle.

Sea Breeze: Nil

Inversions Min/Max (ft)

In the far west, a weak inversion with base at 3000ft and top 5000ft.

Lee waves generated over Snowdonia

Height at strongest wave activity (ft): N/A

Wave amplitude (Nil/Moderate/Severe): Nil

Risk of Rotors: No

Lee waves generated over Dartmoor and Exmoor

Height at strongest wave activity (ft): N/A

Wave amplitude (Nil/Moderate/Severe): Nil

Risk of Rotors: No

Outlook for period:

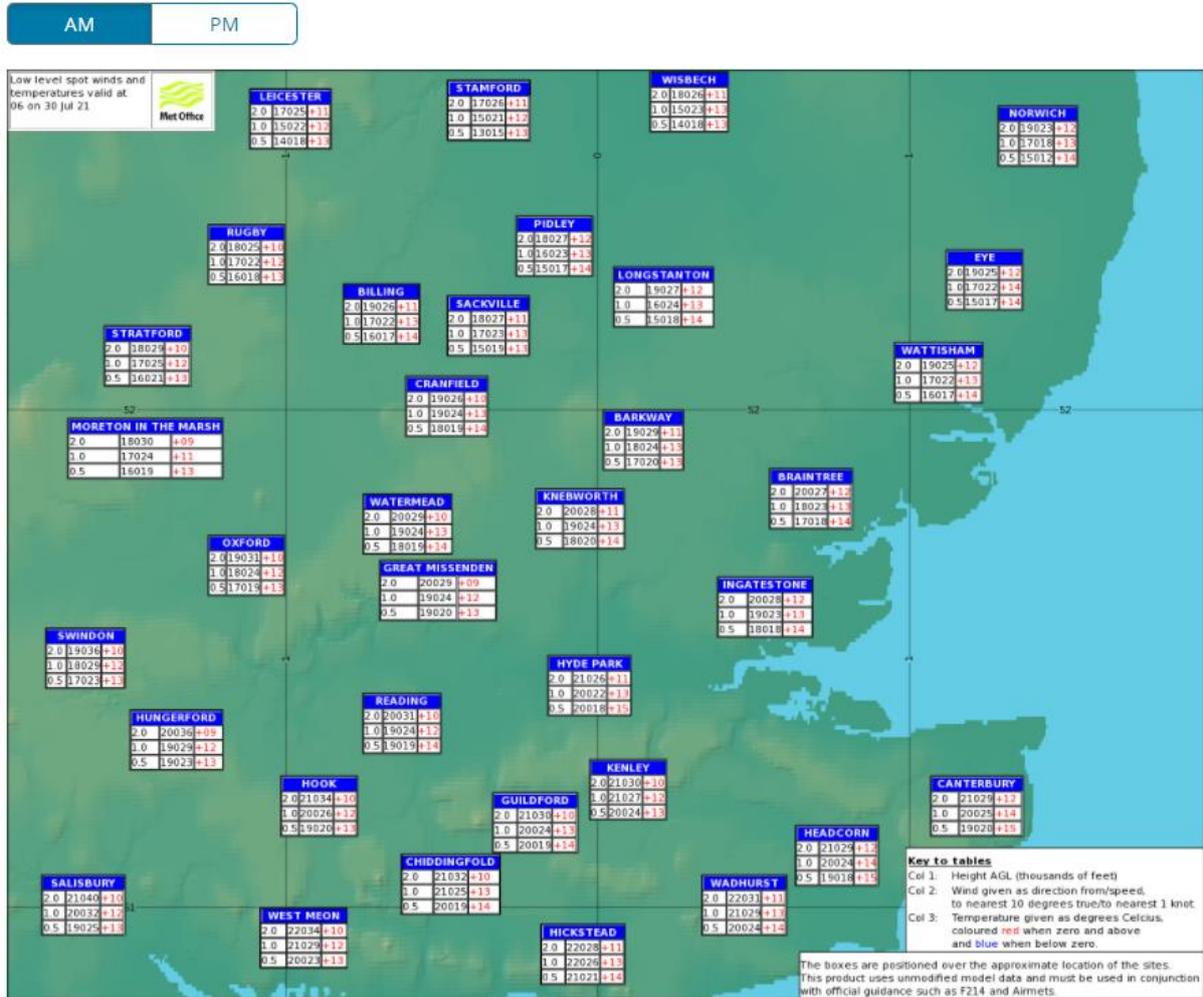
DAWN TO DAWN+3 HOURS, 05 SEPTEMBER 2018: Over most areas moderate northerly winds but remaining strong over west Wales. Light to moderate winds over east Wales and the southwest Midlands.

Time (UTC)	1600	1700	1800	1900	2000	2100
Surface wind direction	020	020	020	020	020	020
Surface wind speed/gusts (kts)	7/14	7/14	7/14	6/13	6/14	6/13
Surface air temp °C	PS16	PS16	PS16	PS16	PS16	PS16
500ft wind direction	020	020	020	020	020	030
500ft wind speed (kts)	11	11	11	11	11	10
500ft air temp °C	PS14	PS15	PS15	PS15	PS15	PS14
1000ft wind direction	020	020	020	020	030	030
1000ft wind speed (kts)	11	11	12	14	14	14
1000ft air temp °C	PS13	PS13	PS13	PS13	PS13	PS13
2000ft wind direction	030	030	030	030	040	040
2000ft wind speed (kts)	8	10	11	13	13	14
2000ft air temp °C	PS11	PS11	PS11	PS11	PS12	PS12
Thermal strength	Weak	Weak	Weak	Weak	Nil	Nil
Thermal height (ft)	1500	2000	1500	1000	0	0
Wind shear	No	No	No	No	No	No
QNH (hPa)	1022	1022	1022	1022	1023	1023
Humidity (%)	80	80	80	80	80	80

Balloon forecasts

South East area AM forecast

Issued - Thu 29 Jul 2021 - 13:34 UTC



4. Map weather layers

4.1. Basic Functionality

The interactive map feature allows users to select from an extensive range of observation and forecast model data. The area covered by the map may be increased or decreased by using the  control or the cursor (or using finders on mobile devices). The map may also be panned.

As described in para 2.1 of this guide, default map settings may be selected to show aerodromes, ballooning locations, both or neither, as well as showing aerodromes by their ICAO indicator and/or name.

Selecting the  icon allows additional information to be provided on whatever weather information is currently being displayed.

Aerodromes
METARs are coloured according to the poorest of the following categories:

Visibility m	Cloud base ft (BKN/OVC)
≥10,000	≥1500
5000 to 9000	1200 to 1400
4000 to 4900	600 to 1100
500 to 3900	200 to 500
<500	<200

-  No data
-  No METAR
-  Aerodrome warning

Balloon Locations

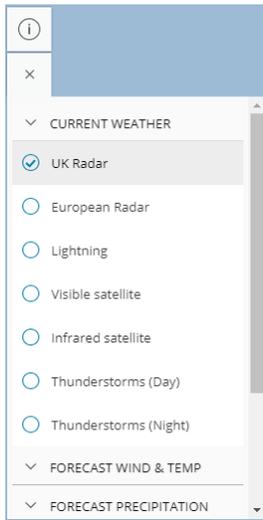
-  Balloon forecast site

Rain rate
mm/hour

	> 32
	16-32
	8-16
	4-8
	2-4
	1-2
	0.5-1
	< 0.5

Example of additional information presented by selecting the  icon

Selecting the  icon allows you to view the list of weather layers that can be selected. This list is expandable.



Example of weather map layers presented by selecting the  icon

When selecting a weather layer from the list, a time sequence will be available at the foot of the map. This allows users to either run the forecast/observation sequence, or select a specific point in time.



The  takes the user out of the map section back to your default ‘landing page’.

Where aerodromes have been selected from the preferences setting, these will be presented as coloured circles on the map. These colours are based on the visibility, cloud base and amount in the latest METAR and are updated following every new METAR issued. **Colour coding** is a good way of ascertaining quickly the conditions over an area without viewing the full observation. A definition of the meaning of each colour is shown in the  icon.

 Military airfield reports also display a colour state in their METARs - BLU, WHT, GRN, YLO1, YLO2, AMB or RED according to cloud base and visibility. These thresholds are different to the colours used to display the observations in the GA product. BLACK indicates the runway is unusable.

A summary of the differences is shown in the table below:

Aerodrome colour state code (shown in METARs from military airfields)			Aerodrome colour state code (shown on website)	
Aerodrome colour state	minimum weather conditions		minimum weather conditions	
	Surface visibility	Base of lowest cloud layer of 3/8 (or SCT) or more in heights above ground level	Surface visibility	Base of lowest cloud layer of 5/8 (or BKN) or more in heights above ground level
Blue (BLU)	8 KM	2500 FT	10 KM	1500 FT
White (WHT)	5000 M	1500 FT	5000 M	1200 FT
Green (GRN)	3700 M	700 FT	4000 M	600 FT
Yellow 1 (YLO1)	2500 M	500 FT		
Yellow 2 (YLO2)	1600 M	300 FT		
Amber (AMB)	800 M	200 FT	500 M	200 FT
Red (RED)	Less than 800 M	Below 200 FT or Sky obscured	Less than 500 M	Below 200 FT or Sky obscured
Black	Observation not available			

Aerodromes that have a red triangle  over their circles indicate that an **aerodrome warning** has been issued for this location.

Aerodrome warnings are issued by the Met Office according to a set of pre-determined forecast conditions. They are as follows:

- **STRONG WIND**

Issued when a strong wind with a mean of 20KT and/or gusts of 28KT is expected at the airfield

- **GALE**

Issued when a strong wind with a mean of 34KT and/or gusts of 43KT is expected at the airfield

- **FROST**

Issued when either:

- an air frost (air temperature of 0°C or lower) is expected at the airfield
- a ground frost (a surface temperature of 0°C or lower) is expected at the airfield.
- a ground and air frost (a surface and air temperatures of 0°C or lower) is expected at the airfield

- **SNOW**

Issued in advance of a snow event

- **FOG**

Issued when fog or freezing fog is expected to reduce visibility to less than 600m.

- **THUNDERSTORM**

Issued when a thunderstorm, with hail and or squall is expected at, or within 5nm of the airfield.

- **HAIL**

Issued when hail is expected at, or within 5nm of the airfield.

- **FREEZING PRECIPITATION**

Issued when freezing precipitation is expected to fall at the airfield.

- **TEMPERATURE INVERSION**

Issued when a temperature inversion of 10°C or more is expected to exist in the lowest 1000 FT.

Further detail on aerodrome warnings, including the phraseology used and how to use these in conjunction with TAFs, is provided in the [pilot resource portal](#).

Selecting an aerodrome from the map will display a box in the top right hand side of the screen showing the latest METAR and any valid aerodrome warnings issued. The age of the latest METAR issued is also shown. The box allows users the option to view further additional information outside of the map if required.

Selecting a ballooning location from the map will take the user out of the map to ballooning forecast for that site.

4.2. Current weather

4.2.1. UK Radar

What information does the layer provide pilots with

High resolution detail of rainfall distribution, intensity and movement over the UK.

i Areas of heavier precipitation are a likely indication of a low cloud base. Use rainfall radar to consider whether low cloud is likely to present a hazard along your route.

Timesteps provided

Every 15 minutes for the previous 3 hours

(5 minute updates for the most recent hour, for premium subscribers).

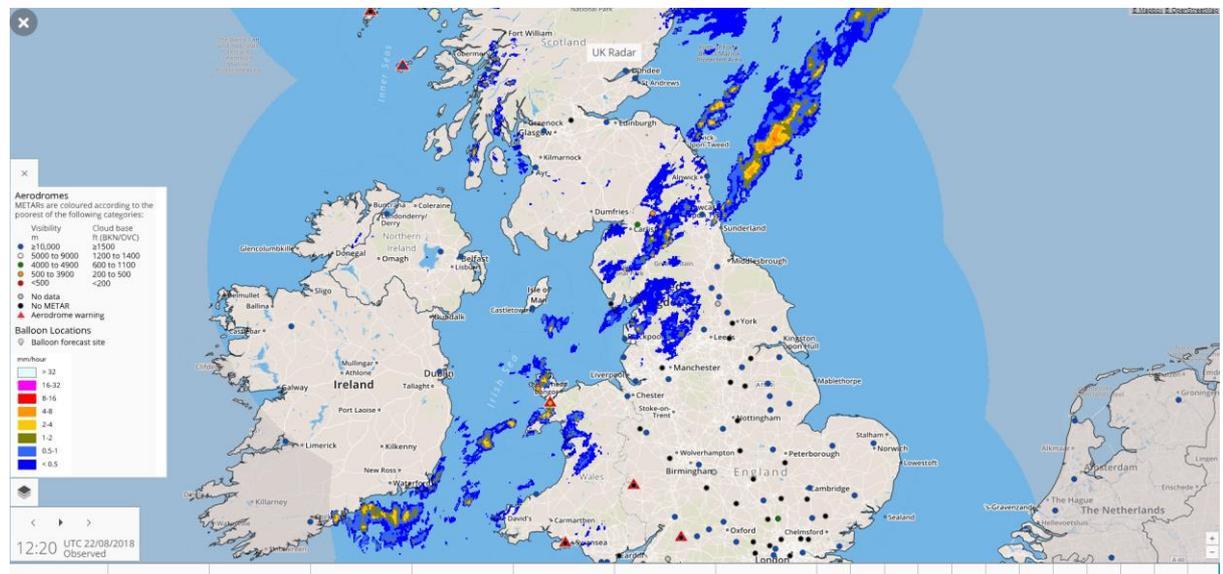
Data source

UK rainfall radar composite

Data update frequency

Every 15 minutes (every 5 minutes for premium subscribers).

Example



4.2.2. European Radar (premium subscribers only)

What information does the layer provide pilots with

Distribution, intensity and movement of precipitation over north western Europe.

Timesteps provided

Every 15 minutes for the previous 3 hours

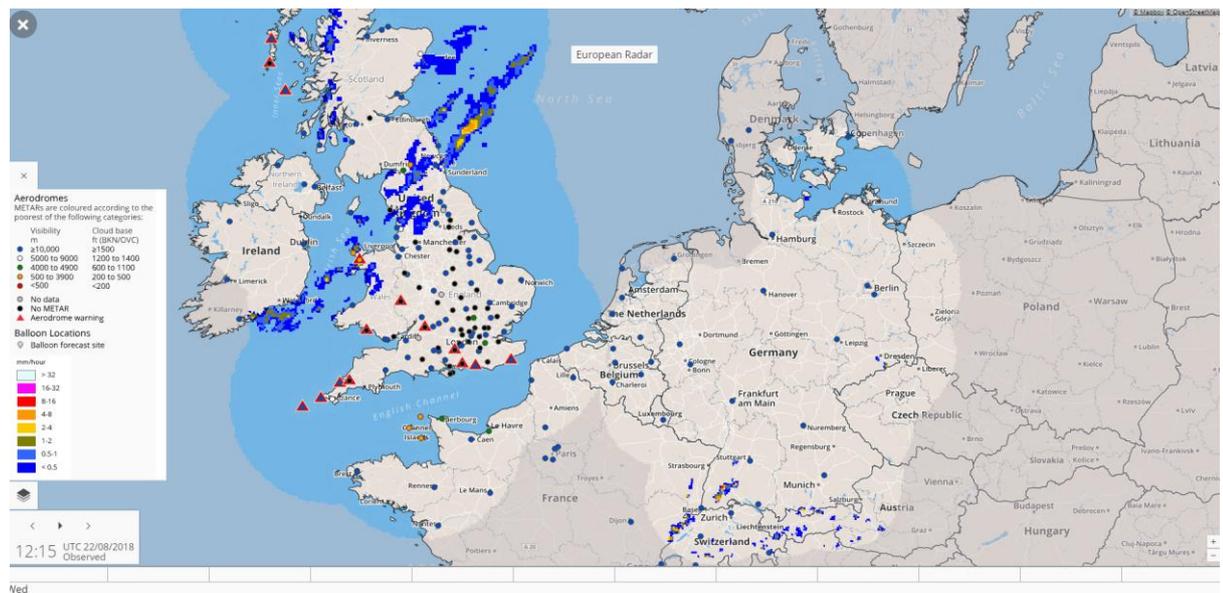
Data source

European composite radar

Data update frequency

Every 15 minutes

Example



4.2.3. Lightning

What information does the layer provide pilots with

The distribution and timing of lightning detected by the Met Office's lightning detection system.

 most lightning detected is cloud to ground activity. Some intra-cloud (or cloud to cloud) activity may also be detected

Timesteps provided

Every 15 minutes for the previous 3 hours

Data source

The Met Office's lightning detection system, called ATDNet.

Data update frequency

Every 5 minutes

4.2.4. Visible Satellite (premium subscribers only)

What information does the layer provide pilots with Satellite imagery in the visible wavelength (daytime only)

The structure of clouds in satellite images can inform pilots a lot about the weather, and animated sequences can tell pilots about the movement of weather systems.

Bands of cloud often indicate the presence of weather fronts, whilst individual clouds are likely to provide detail on the location of convective clouds. Both frontal and convective cloud information is useful to pilots because each are often accompanied by potential weather hazards such as icing, turbulence, hail, and lightning. Gaps in the cloud cover can also reveal the location of snow fields.

Timesteps provided

Every 15 minutes for the previous 6 hours

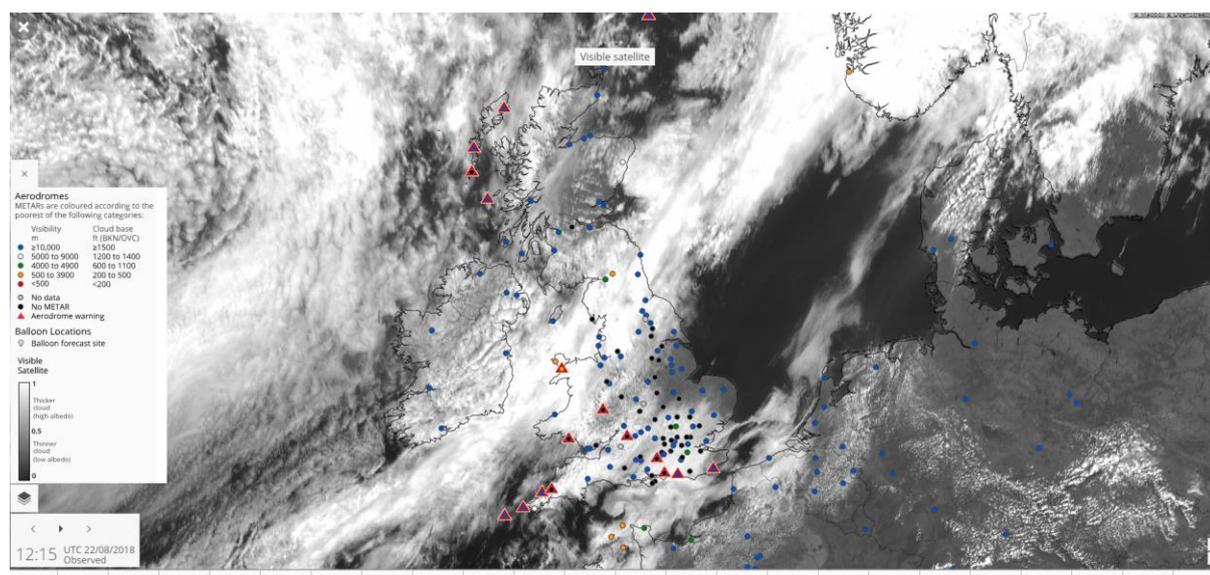
Data source

Meteosat Second Generation satellite

Data update frequency

Every 15 minutes

Example



4.2.5. Infrared Satellite (premium subscribers only)

What information does the layer provide pilots with
Satellite imagery from in the infrared wavelength.

Satellites also measure the temperature of the clouds and the surface with an infrared sensor. This results in infrared satellite imagery.

The thermal contrast between land and cloud tops allows the position of clouds to be revealed during the hours of darkness. The brightest clouds are those with the greatest thermal contrast, i.e. those with the highest tops such as CBs. Those with little contrast with the land have similar thermal differences so are most likely low cloud like stratus, or fog.

Timesteps provided

Every 15 minutes for the previous 6 hours

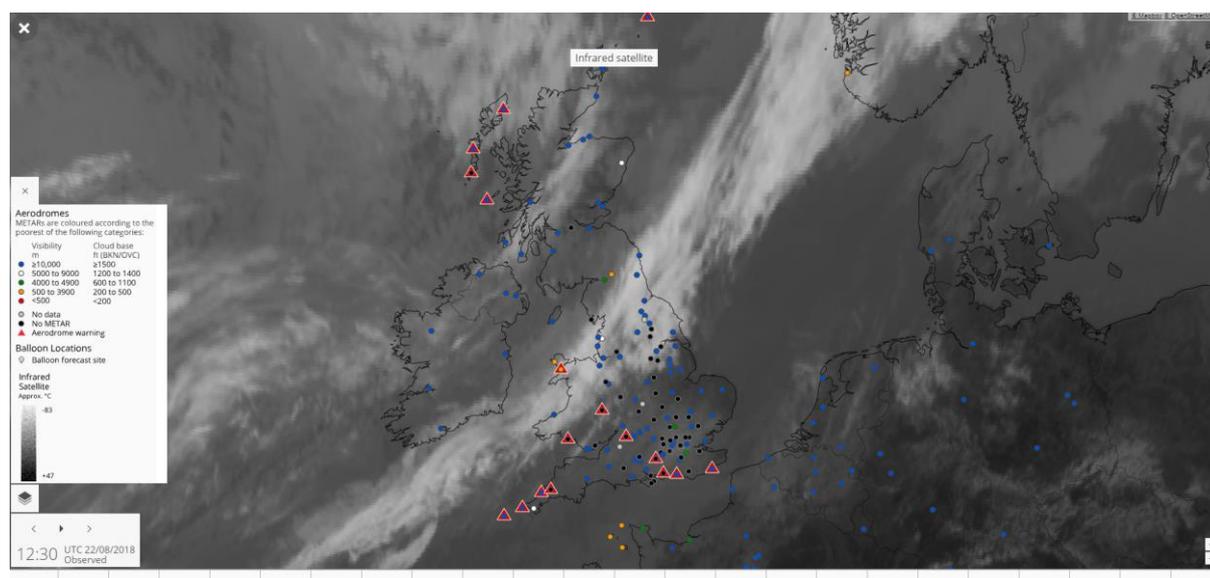
Data source

Meteosat Second Generation satellite

Data update frequency

Every 15 minutes

Example



4.2.6. Thunderstorms (day)

What information does the layer provide pilots with

A combination layer showing both visible satellite imagery and observed lightning.

Timesteps provided

Every 15 minutes for the previous 3 hours

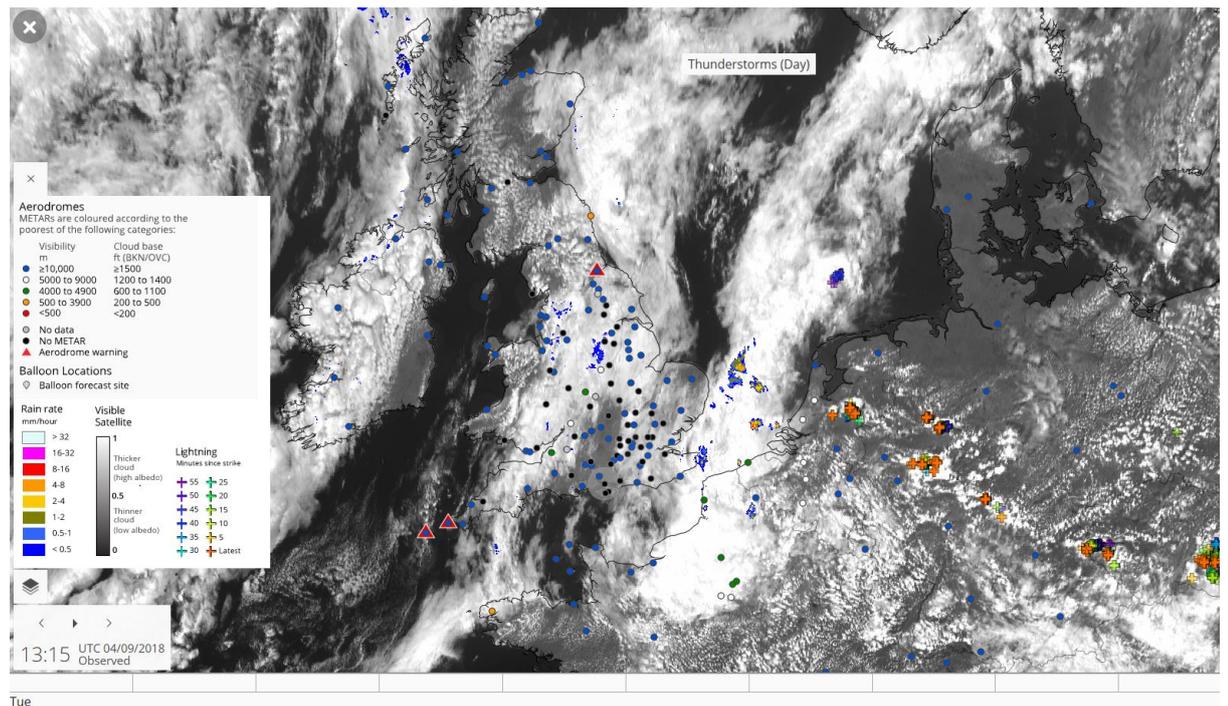
Data source

Meteosat Second Generation satellite & the Met Office's lightning detection system, ATDNet

Data update frequency

Every 15 minutes

Example



4.2.7. Thunderstorms (night)

What information does the layer provide pilots with

A combination layer showing both infrared satellite imagery and observed lightning.

Timesteps provided

Every 15 minutes for the previous 3 hours

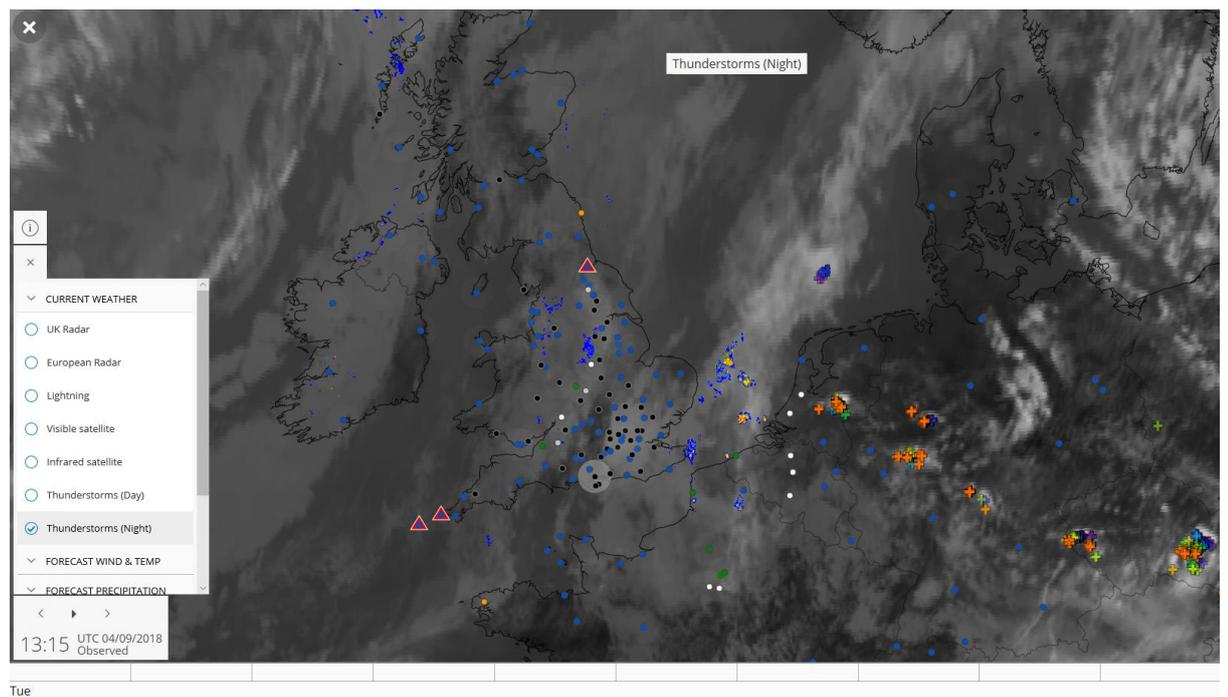
Data source

Meteosat Second Generation satellite & the Met Office's lightning detection system, ATDNet

Data update frequency

Every 15 minutes

Example



4.3. Forecast Wind & Temp

4.3.1. Wind Fletches

What information does the layer provide pilots with

Gridded mean wind speeds for the UK and Europe at the surface, 2000ft, 5000ft and 10000ft.

Greater detail over a particular area can be obtained by zooming in.

Each feather shows the direction from which the wind is coming at a particular point. Each large line on a feather represents 10KTs and each half line represents 5KTs. A shaded triangle represents 50KTs. Wind information is provided referenced to degrees true.

Timesteps provided

Every 3 hours from T+0 to T+36 hours, then
 Every 6 hours from T+36 hours to T+60 hours, then
 Every 12 hours to 5 days ahead.

Data source

Met Office global model

Data update frequency

Model updates every 6 hours, with data available approximately 4.5 hours later (i.e. at 0430, 1030, 1630 & 2230 UTC).

Example



4.3.2. Wind Arrows

What information does the layer provide pilots with

Gridded mean wind speeds for the UK and Europe at the surface, 2000ft, 5000ft and 10000ft.

Timesteps provided

Every 3 hours from T+0 to T+36 hours, then
 Every 6 hours from T+36 hours to T+60 hours, then
 Every 12 hours to 5 days ahead.

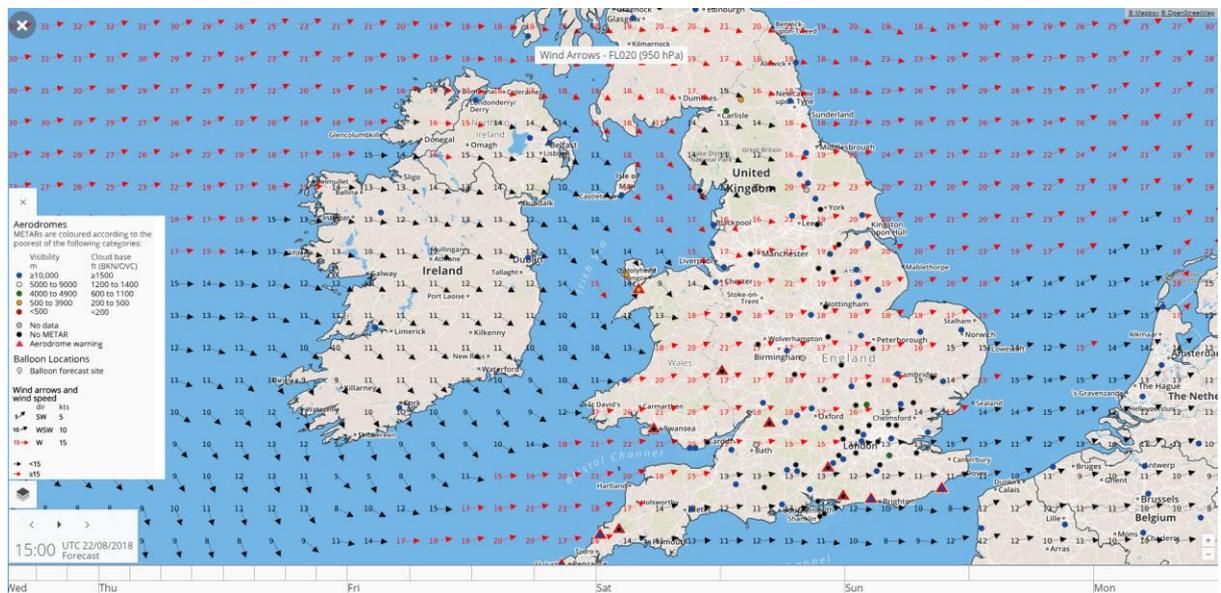
Data source

Met Office global model

Data update frequency

Model updates every 6 hours, with data available approximately 4.5 hours later (i.e. at 0430, 1030, 1630 & 2230 UTC).

Example



4.3.3. Wind & Temperature

What information does the layer provide pilots with

Gridded mean wind speeds and temperatures for the UK and Europe at 2000ft, 5000ft and 10000ft

Timesteps provided

Every 3 hours from T+0 to T+36 hours ahead

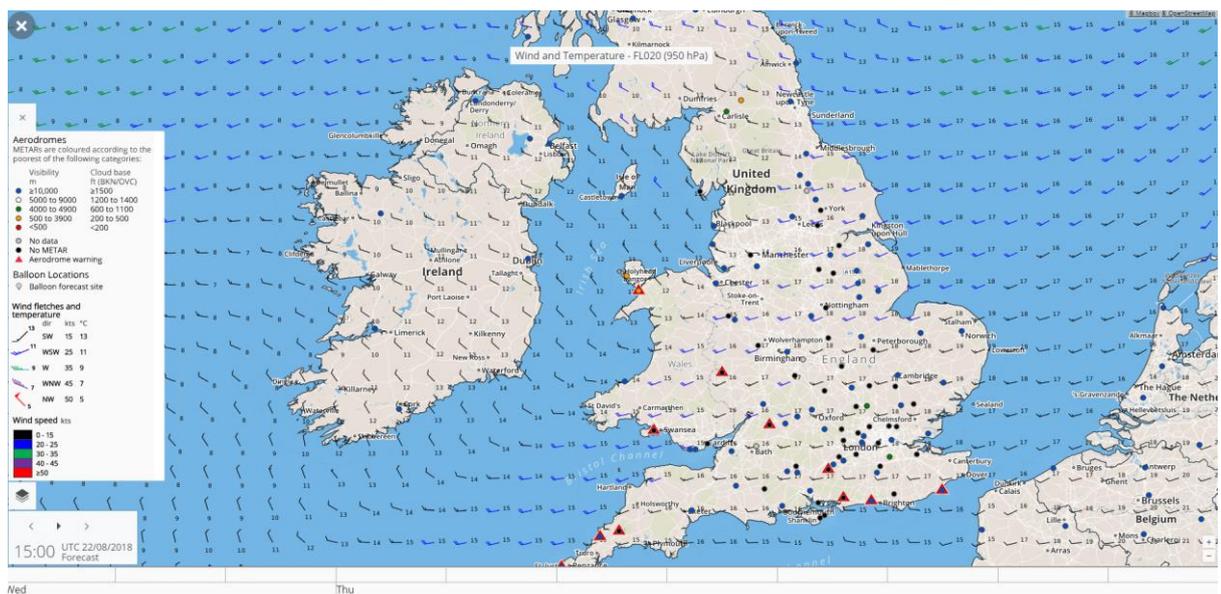
Data source

Met Office global model

Data update frequency

Model updates every 6 hours, with data available approximately 4.5 hours later (i.e. at 0430, 1030, 1630 & 2230 UTC).

Example



4.3.4. Temperature

What information does the layer provide pilots with

Forecast temperature data for 2000ft, 5000ft & 10000ft.

 Ice accretion is a particular hazard when flying through cloud when the temperature close to or below 0C

Timesteps provided

Every 3 hours from T+0 to T+36 hours, then

Every 6 hours from T+36 hours to T+60 hours, then

Every 12 hours to 5 days ahead.

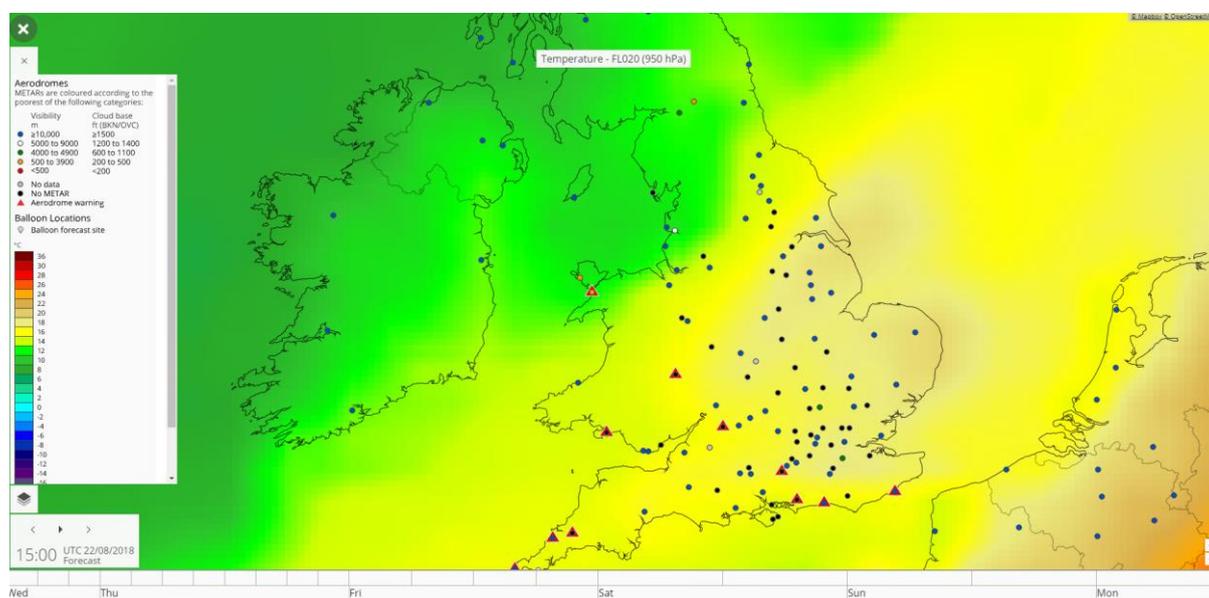
Data source

Met Office global model

Data update frequency

Model updates every 6 hours, with data available approximately 4.5 hours later (i.e. at 0430, 1030, 1630 & 2230 UTC).

Example



4.4. Forecast Precipitation

4.4.1. Precipitation Rate & Pressure

What information does the layer provide pilots with

This layer uses high resolution modelling (including ‘nowcasting’ for the first 6 hours) to forecast the movement and intensity of precipitation, and associated pressure pattern.

 Nowcasting uses new observation data regularly received into our model to constantly update and fine tune short term forecasts.

Timesteps provided

Hourly to 36 hours ahead

Data source

UK model

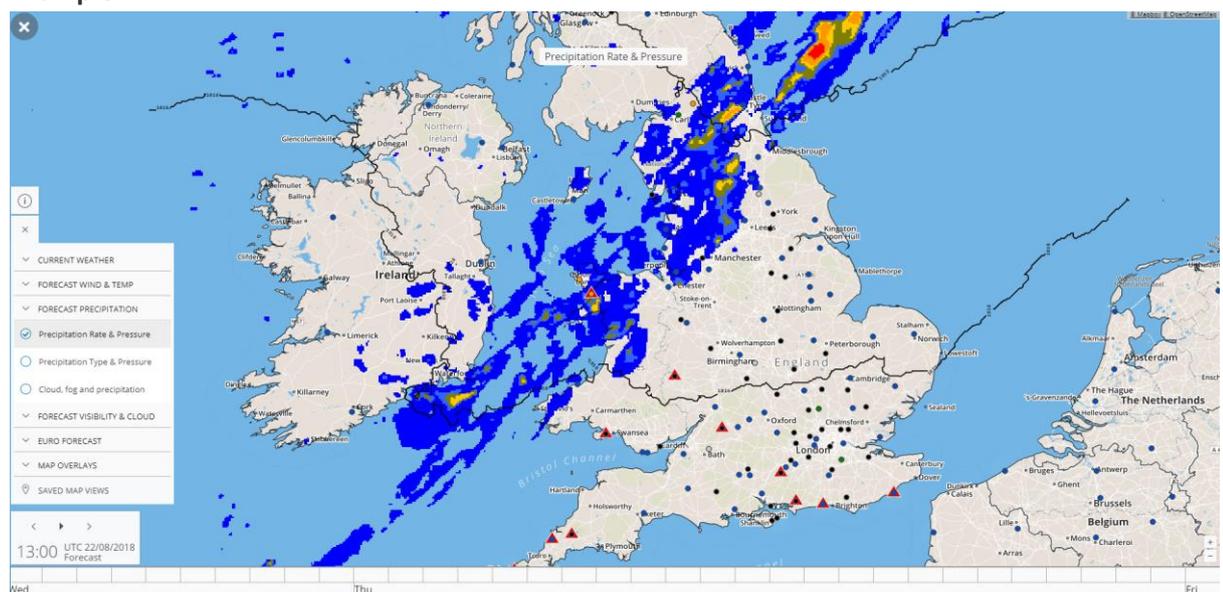
Data update frequency

Data for the first 6 hours updates hourly

The rest of the data is updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available approximately 27 minutes past the hour. The rest of the data will update approximately 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.4.2. Precipitation Type & Pressure

What information does the layer provide pilots with (premium subscribers only)

This layer uses hi resolution modelling (including ‘nowcasting’ for the first 6 hours) to forecast the movement and type of precipitation, and associated pressure pattern.

i Nowcasting uses new observation data regularly received into our model to constantly update and fine short term forecasts.

Timesteps provided

Hourly to 36 hours ahead

Data source

UK model

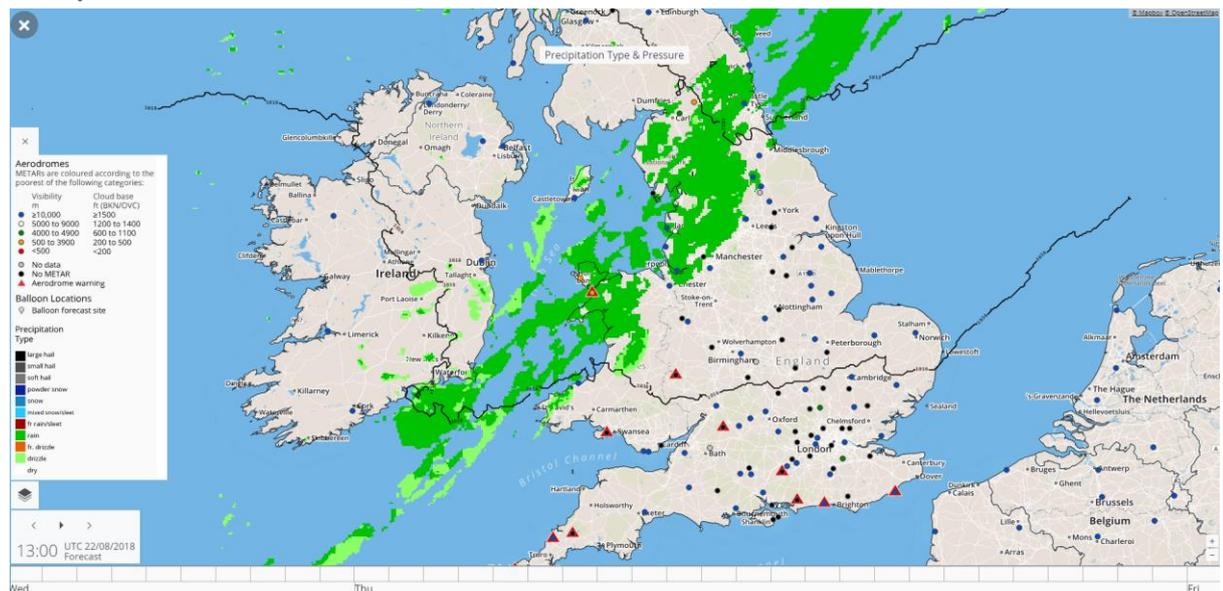
Data update frequency

Data for the first 6 hours updates hourly

The rest of the data is updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available approximately 27 minutes past the hour. The rest of the data will update approximately 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.4.3. Cloud, fog & precipitation (premium subscribers only)

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast cloud base and fog areas, as well as areas of precipitation. The layer is a useful indication of periods when the cloud base and/or fog may present a potential hazard, especially over higher ground.

Timesteps provided

Hourly to 36 hours ahead

Data source

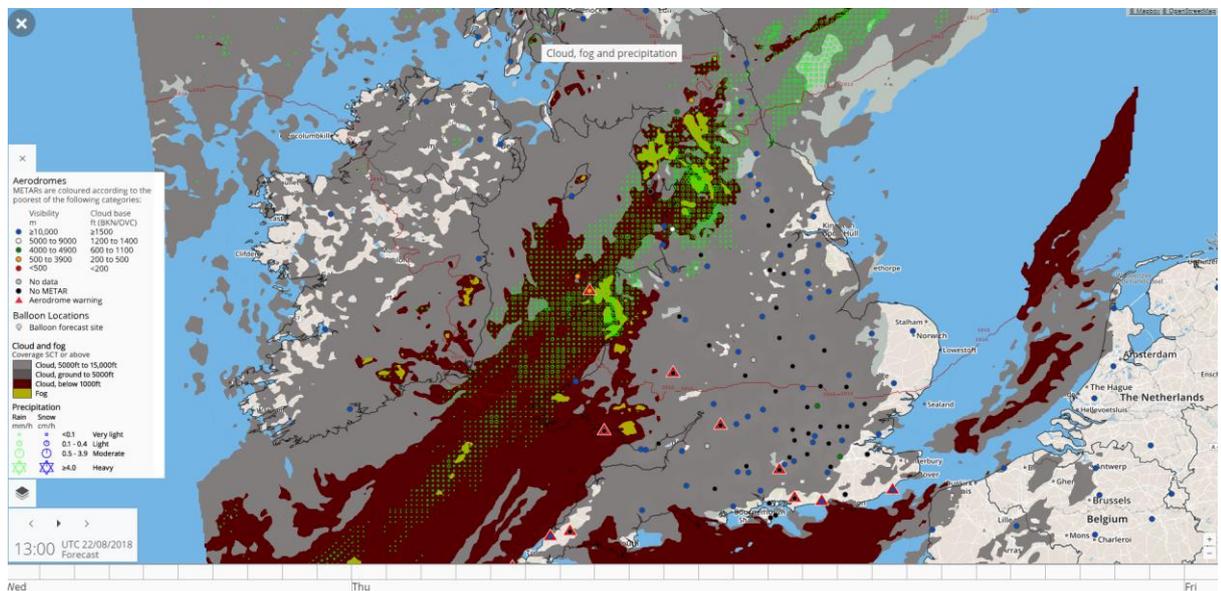
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5. Forecast Visibility & Cloud (premium subscribers only)

4.5.1. Surface Pressure & Total Cloud

What information does the layer provide pilots with

This layer uses high resolution modelling (including ‘nowcasting’ for the first 6 hours) to forecast cloud coverage and associated pressure pattern.

 Nowcasting uses new observation data received into our model every 6 hours to constantly update and fine short term forecasts

Timesteps provided

Hourly to 36 hours ahead

Data source

UK model

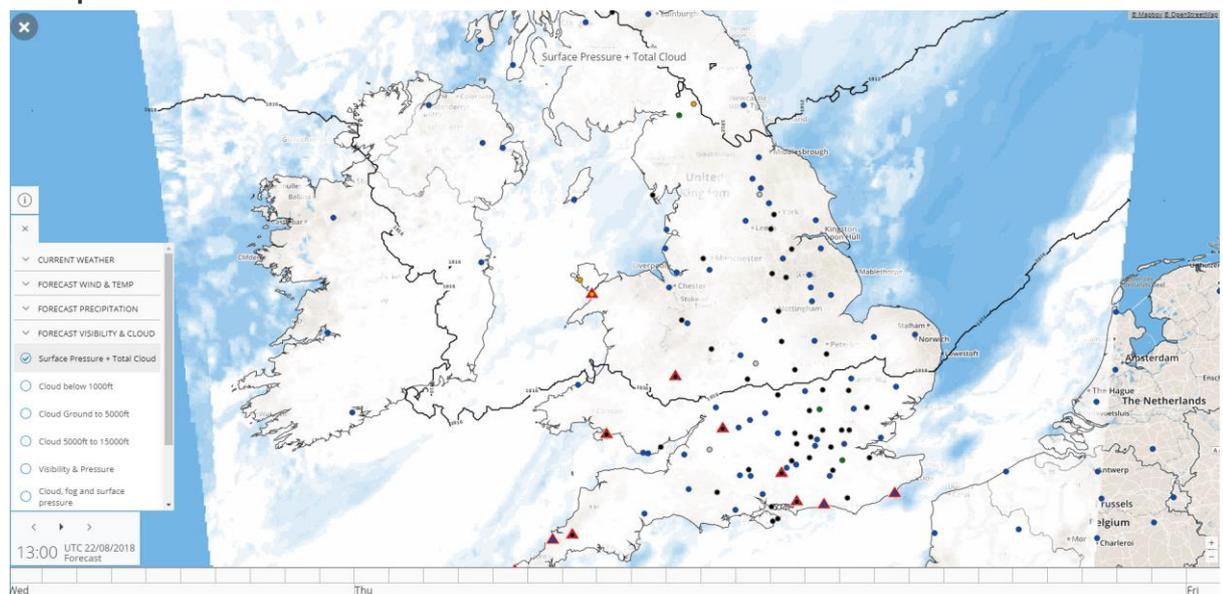
Data update frequency

Data for the first 6 hours updates hourly

The rest of the data is updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available approximately 27 minutes past the hour. The rest of the data will update approximately 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5.2. Cloud below 1000ft

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast areas of low cloud (below 1000ft above ground level). The layer highlights areas of particular risk for pilots operating visual met conditions.

Timesteps provided

Hourly to 36 hours ahead

Data source

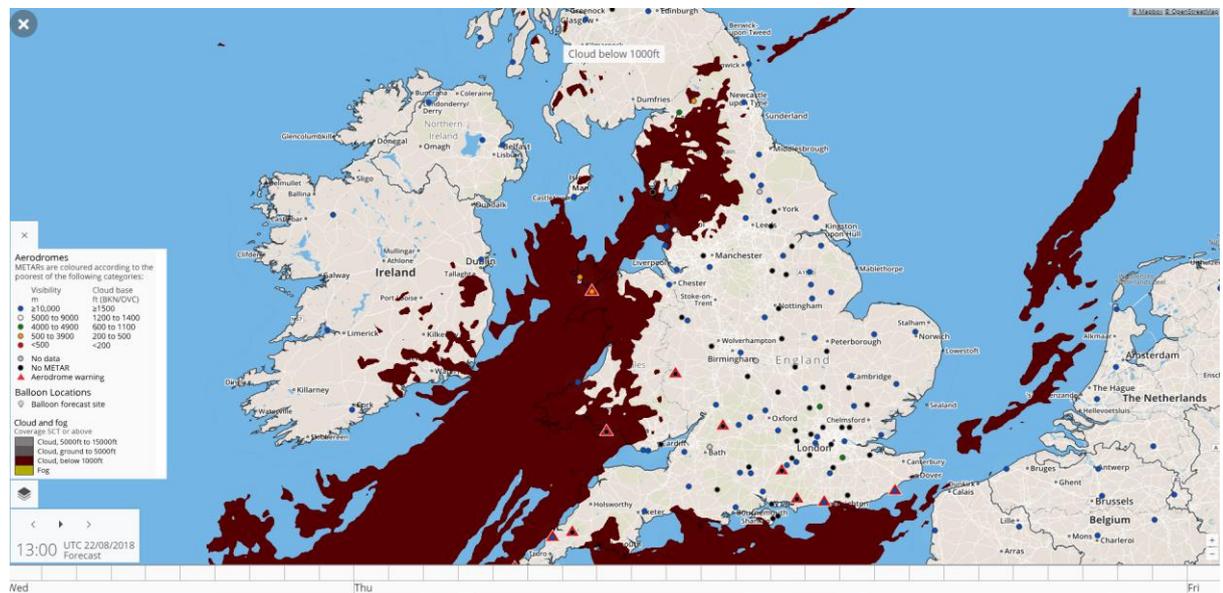
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5.3. Cloud Ground to 5000ft

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast areas of cloud (below 5000ft above ground level).

Timesteps provided

Hourly to 36 hours ahead

Data source

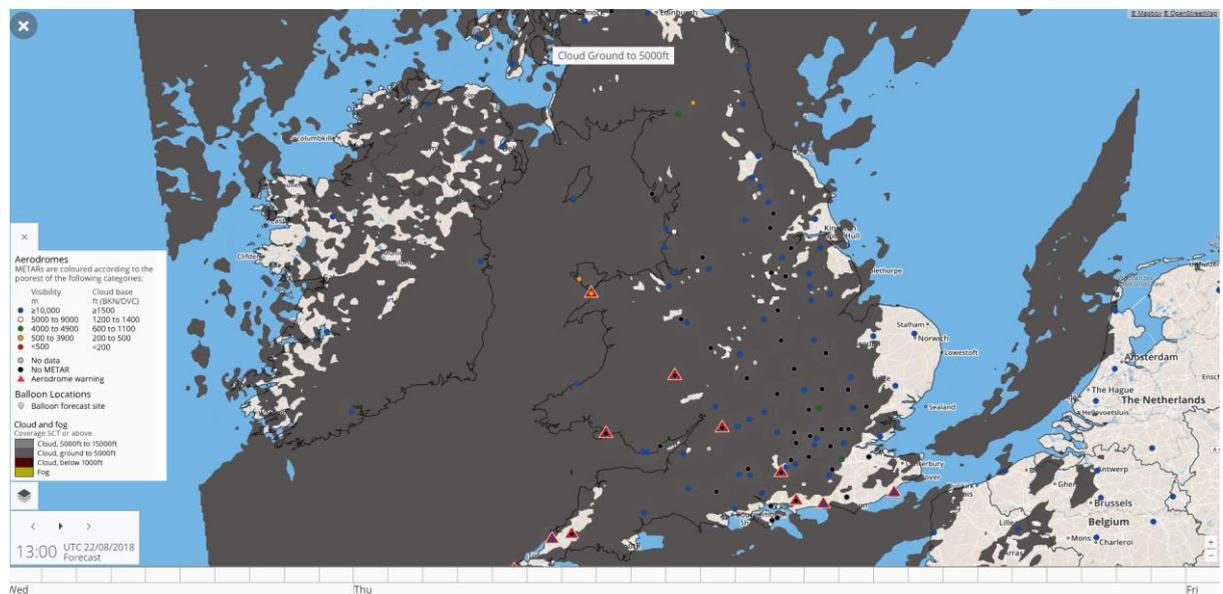
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5.4. Cloud 5000ft to 15000ft

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast areas of high cloud (above 5000ft above ground level).

Timesteps provided

Hourly to 36 hours ahead

Data source

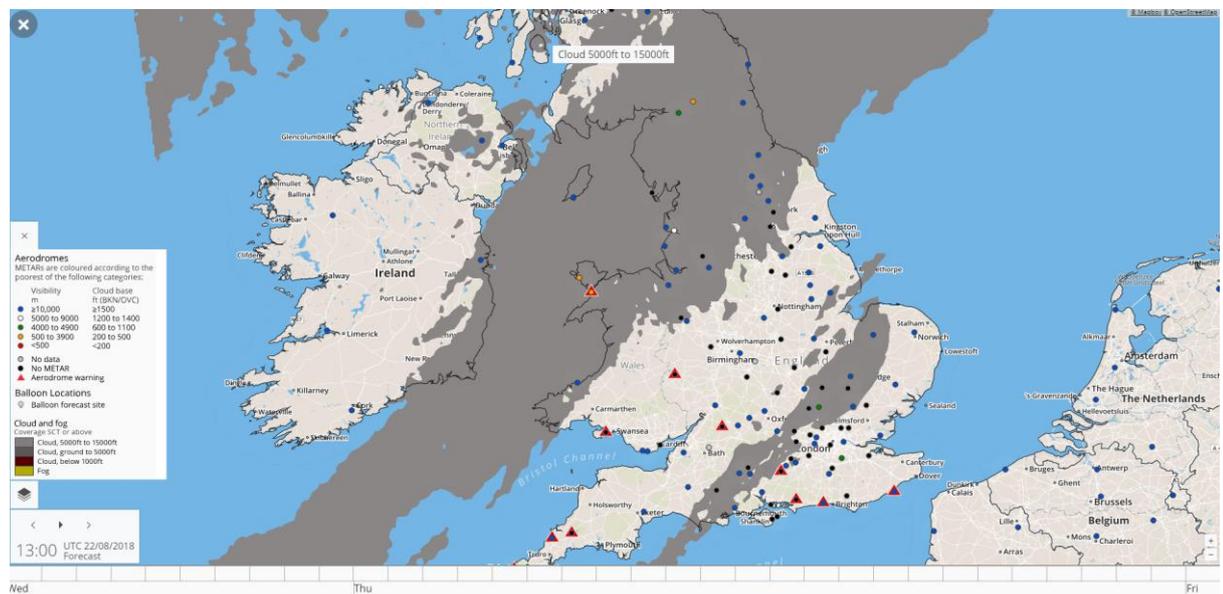
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5.5. Visibility & Pressure

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast areas of potential low visibility and associated pressure pattern. Areas of low visibility are normally associated with frontal systems, heavy precipitation or low cloud.

Timesteps provided

Hourly to 36 hours ahead

Data source

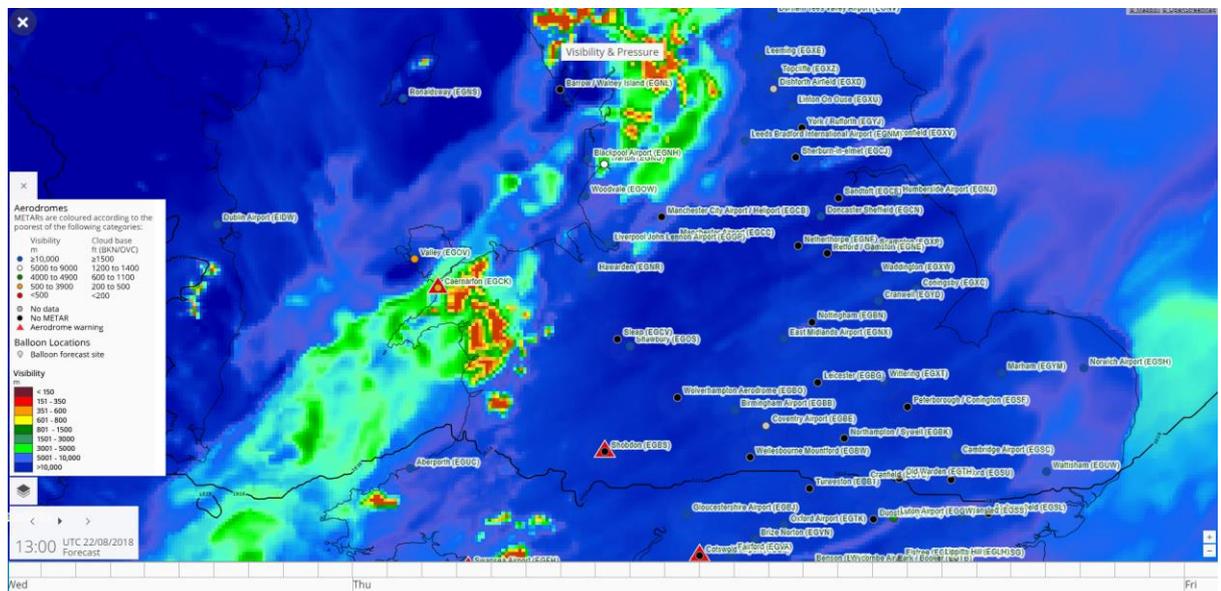
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.5.6. Cloud, fog & surface pressure

What information does the layer provide pilots with

This layer uses high resolution modelling to forecast cloud base and fog areas, as well as pressure pattern. The layer is a useful indication of periods when the cloud base and/or fog may present a potential hazard, especially over higher ground.

Timesteps provided

Hourly to 36 hours ahead

Data source

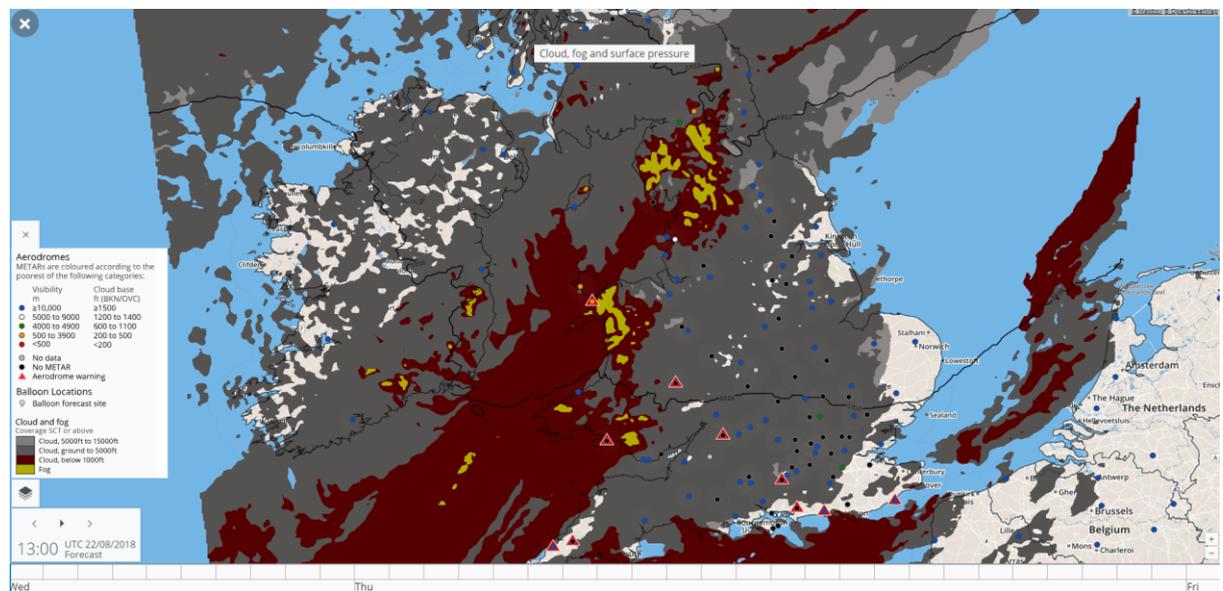
UK model

Data update frequency

Data updated at 0300, 0900, 1500 & 2100 UTC

Updated data is available 3.5 hours after the model run (i.e. at 0630, 1230, 1830 & 0030 UTC).

Example



4.6. Euro Forecast (premium subscribers only)

4.6.1. Significant Wave Height

What information does the layer provide pilots with

This layer presents the forecast wave heights around the UK. Bands of equal wave height are shown. Through using the forecast sequence it is possible to identify periods over the following 5 days when, for example, the wave heights are expected to increase. Timesteps are presented:

 CAP1145 describes the regulations for helicopters operating offshore, including the requirement to brief on the sea state from an approved source such as the Met Office. Under these regulations helicopter operations should not take place over open seas when a wave height of 6 metres or more is expected.

 The Significant wave heights provided are defined as the 'average height of the highest one-third of waves observed' - a standard parameter used by scientists and mariners alike. As a rough rule of thumb the 1/1000th wave experienced will be approximately twice the significant wave height.

Timesteps provided

Hourly to 36 hours ahead.

Data source

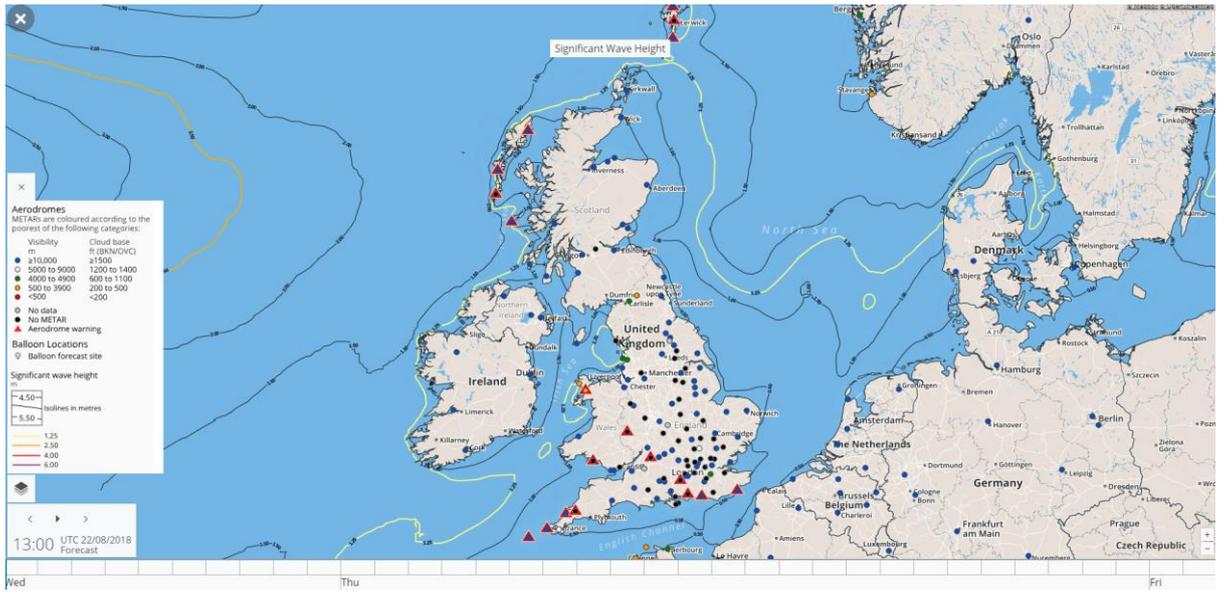
EURO wave model

Date update frequency

4 times a day at around 0100, 0700, 1300 & 1900 UTC. Due to processing and QC there is a period of about 4 hours between the times of the model updates and when the updates occur on the website.

This means that the SWH product will update at around 0500, 1100 1700, 2300 UTC.

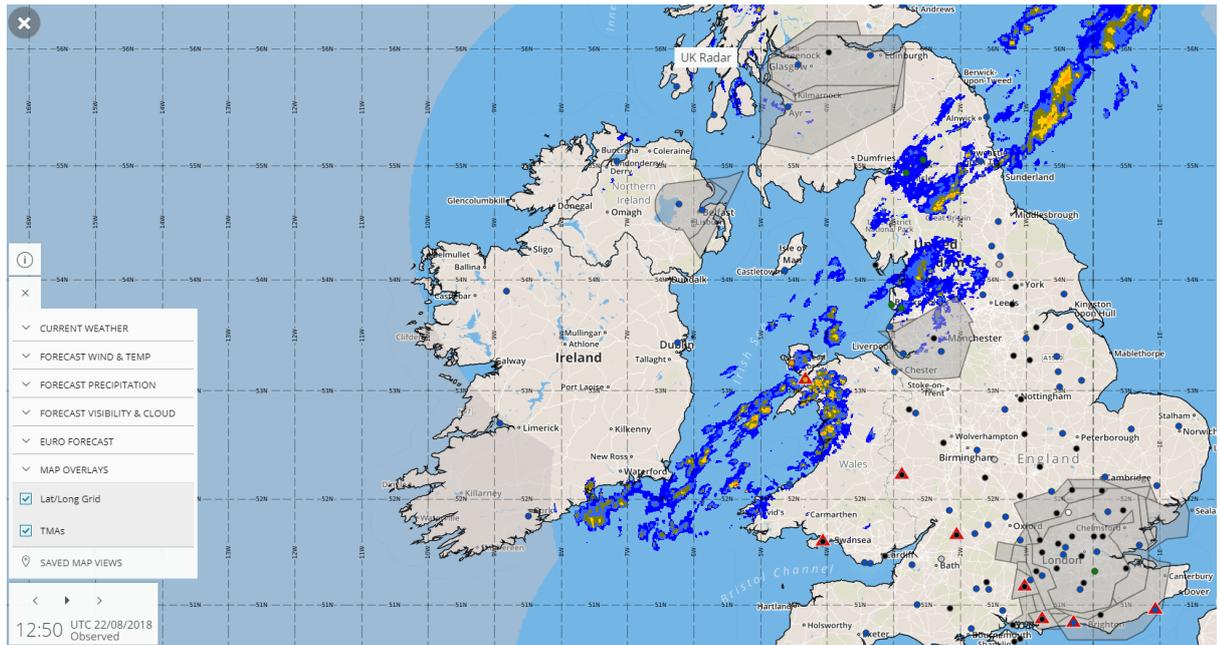
Example



4.7. Map Overlays

4.7.1. Lat/Long grid & TMAs

These grids can be used along with any other weather layer.



4.8. Saved Map Views

For convenience it is possible to name and save the map position you are currently viewing, using the Saved Map Views function.

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