

OpenRunway[®] user guide

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Contents

Introduction	3
PC, tablet and mobile configuration	3
Logging in to OpenRunway®	4
Staying logged in	4
Launching the application	4
Notices	4
Main menu	5
Accessing aerodrome warnings	5
24 hour forecast table	6
RAG statuses in the 24 hour forecast summary table	7
Wind direction RAG statuses	7
Cloud amount/ cloud base RAG statuses	7
Setting RAG thresholds	7
Forecast PDF	8
Forecaster summary	8
Map	8
Map layer picker	8
Map layer keys	8
Map animation controls	8
Five day de-icing forecast	8
TAF & METAR	9
TAF & METAR search functionality	10
TAF & METAR on/off toggle	10
Help, my services & logout	10



Introduction

OpenRunway® is a web-based weather forecast delivery system that makes weather information easier to interpret and aids operational decision-making throughout the year. It provides at-a-glance forecast conditions affecting your chosen airports.

We have designed OpenRunway® to help you plan to mitigate the effects of weather on both staff and resources to minimise operational downtime.

OpenRunway® features include:

- Access on a desktop, tablet and smart phone
- At-a-glance hour-by-hour 24 summary table with RAG statuses for current and forecast weather for your airport
- Access to information from runway sensors via the 24 hour forecast table
- Forecast weather overlaid on interactive maps, weather radar and satellite imagery
- Access to aerodrome warnings throughout the UK
- Predefined TAF/ METAR lists and global search
- Ability to set default thresholds
- Ability to change the location of the forecast data displayed in the 24 hour forecast table
- Optional 5 day de-icing forecast (additional subscription based feature)
- Optional daily forecast summary tailored to your specific location, which can be viewed and downloaded as a PDF (additional subscription based feature)
- 24 hour access to aviation forecasters, via the Talk to a Forecaster service

OpenRunway® is found at: www.metoffice.gov.uk/premium/openrunway

**Please note that all times shown in this product are in UTC.
Forecast data is for reference only and does not replace the official TAF.**

PC, tablet and mobile configuration

To use OpenRunway® you will require the following configuration on your desktop, tablet or smart phone.

PC Requirements		
Operating System	Web Browser	Internet Connection
Windows® 7, 8, 10	Latest version of: Google Chrome, Mozilla Firefox, IE11	1 Mbps +
Mac OS X 10.10, 10.11	Latest version of: Safari, Google Chrome, Mozilla Firefox	1 Mbps +

Users of Windows Surface tablets: Whilst the above browsers are supported, the Met Office recommends Google Chrome for the best experience whilst using this product on a Surface tablet. This is due to IE11 not supporting the scrolling action required to navigate around the 24 hour forecast table. If users have Internet Explorer 11 on their surface tablet, it is encouraged that they use an alternative browser for use of this feature.

Mobile Device Service Requirements			
Operating System	Web Browser	Screen Size	Internet Connection
iOS 8, 9	Latest version of: Safari, Google Chrome, Mozilla Firefox	4.0 Inch +	1 Mbps +
Android Jelly Bean, KitKat, Lollipop, Marshmallow	Latest version of: Google Chrome, Mozilla Firefox	4.0 Inch +	1 Mbps +

Logging in to OpenRunway®

The initial login screen presented will require you to enter a username and password to access OpenRunway®. These login details will be provided to you by the Met Office. Note that the username and password are case sensitive.

Staying logged in

By ticking the 'Stay logged in' tick box you will stay logged in unless it is logged off or inactive for 30 days.

If you have any problems logging into OpenRunway®, please contact the Weather Desk on +44 (0)1392 885680 or 0370 900 0100. Please have details of your username and password ready (if available) when you call to enable us to deal with your enquiry promptly.

Launching the application

Select the OpenRunway® icon on the MyServices page to launch OpenRunway®.

When launching the application, the 24 hour forecast summary table will load for your default airport (Diagram 1). The airport name, date and time will always appear above the 24 hour forecast table for reference.

Diagram 1

a. Menu

b. Latest observation shown with a wider margin

c. Date and time of the 24 hour forecast table

d. Time since last refresh

e. Number of notices

f. Runway selector

g. White backgrounds indicate rows where no RAG status applies.

h. Active aerodrome warnings

	0920	0950	1020	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000		
Aerodrome Warnings																												
Surface wind direction	150	140	110	115	182	133	166	98	282	184	259	293	187	272	318	9	18	119	250	57	125	295	303	169	164	90	316	
Surface wind speed	7	15	21	2	42	62	3	21	19	49	4	23	49	35	47	19	54	6	56	55	32	12	46	36	3	42	10	
Surface gust speed			29	32	41	70	15	41	60	15	39	36	50	44	53	5	16	33	62	28	52	35	6	50	12	45	30	
Surface crosswind	7	13	10	1	41	49	3	6	7	47	0	12	47	7	40	18	48	3	10	22	22	7	31	36	3	7	8	
Upper wind direction				240	255	23	104	217	283	203	121	311	191	191	16	160	155	359	165	196	211	323	127	285	347	18	53	
Upper wind speed				57	8	31	7	5	60	5	61	47	30	22	17	64	14	27	34	8	33	43	16	25	30	13	6	
Cloud amount	FEW	FEW	VV	SCT	BKN	VRB	FEW	FEW	FEW	BKN	FEW	FEW	BKN	OVC	BKN	BKN	BKN	BKN	BKN	BKN	BKN	BKN	BKN	BKN	SCT	BKN	BKN	
Cloud base	ft	2500	2000	0	14695			30411	9333				11568	20520	37909	21661	22338	31015	36506	13562	5469	8924	35092		22480	31010		
Visibility	km	10	10	5	4.5	1.9	7	6	8	0.40	0.40	7	10	9	8	8	9	0.20	4.9	4.7	4.9	7	6	8	6	9	2.1	9
Weather		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
Lightning risk	%				17	16	54	0	21	84	29	64	2	92	45	79	16	14	87	37	64	78	59	32	42	65	95	57
Rain amount	mm				1	2	2	2	7	10	1	7	1	9	6	0	10	2	0	6	4	3	8	5	1	3	6	8
Falling snow	cm				0.3	0.1	0.2	0	0	0.3	0.3	0.1	0	0.3	0	0	0	0	0.2	0.2	0	0.1	0.3	0.1	0	0.1	0.2	0.1
Temperature	°C	13	13	3	18	8	32	40	18	23	11	-3	36	32	18	-6	4	29	23	16	23	30	28	22	-1	-8	18	37
Dew point	°C	7	8	-1	7	4	5	3	-4	-4	-3	-5	1	8	-4	7	9	-2	10	3	0	6	9	-4	-4	9	-3	
RST	°C				37.9	34.3	6.1	24.2	27.1	0.2	21	39.1	15.3	39.9	34.1	16.7	32.2	13.3	17.6	15.3	21.5	17.4	3	12.1	21.2	30.1	31.9	14.1
Runway state		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	W	W	W	D	D	D	D
QNH	hPa	1006	1006	0995	0974	1005	1035	1000	1029	0991	0997	1056	0994	1055	0980	0984	0957	1039	1057	1043	1057	1034	1004	1006	1028	1027	1036	0990

Notices

From time to time the Met Office may issue service notices about the OpenRunway® product. These can include information such as known server issues, planned downtime for maintenance or known system errors.

The Met Office will make you aware of these notices via a notification icon that will always appear at the top right hand corner of the screen (Diagram 1/e).

The blue number badge displayed above the notices icon indicates how many live notices are present.

Main menu

Navigation around the product is achieved by use of the main menu, which is accessed by clicking on the main menu button at the top left hand side of the screen (Diagram 1/a).

Menu items available to users will be based on user subscriptions. For example, the PDF forecast, forecaster summary, threshold setting option and de-icing product will only appear if the user is subscribed to these particular services.

For information on your current subscription, or to find out about our additional services, please contact your Met Office Account Manager.

If users have access to data for more than one airport under their subscription, this can be viewed by selecting the new airport from the airport selector. The airport selector will appear in a blue box at the top of the main menu, and when selected will offer a list of new airports to choose from. Note that selecting a new airport will change the location of the data displayed in the 24 hour forecast table, aerodrome warnings page and additional products if subscribed (e.g., Forecast PDF).

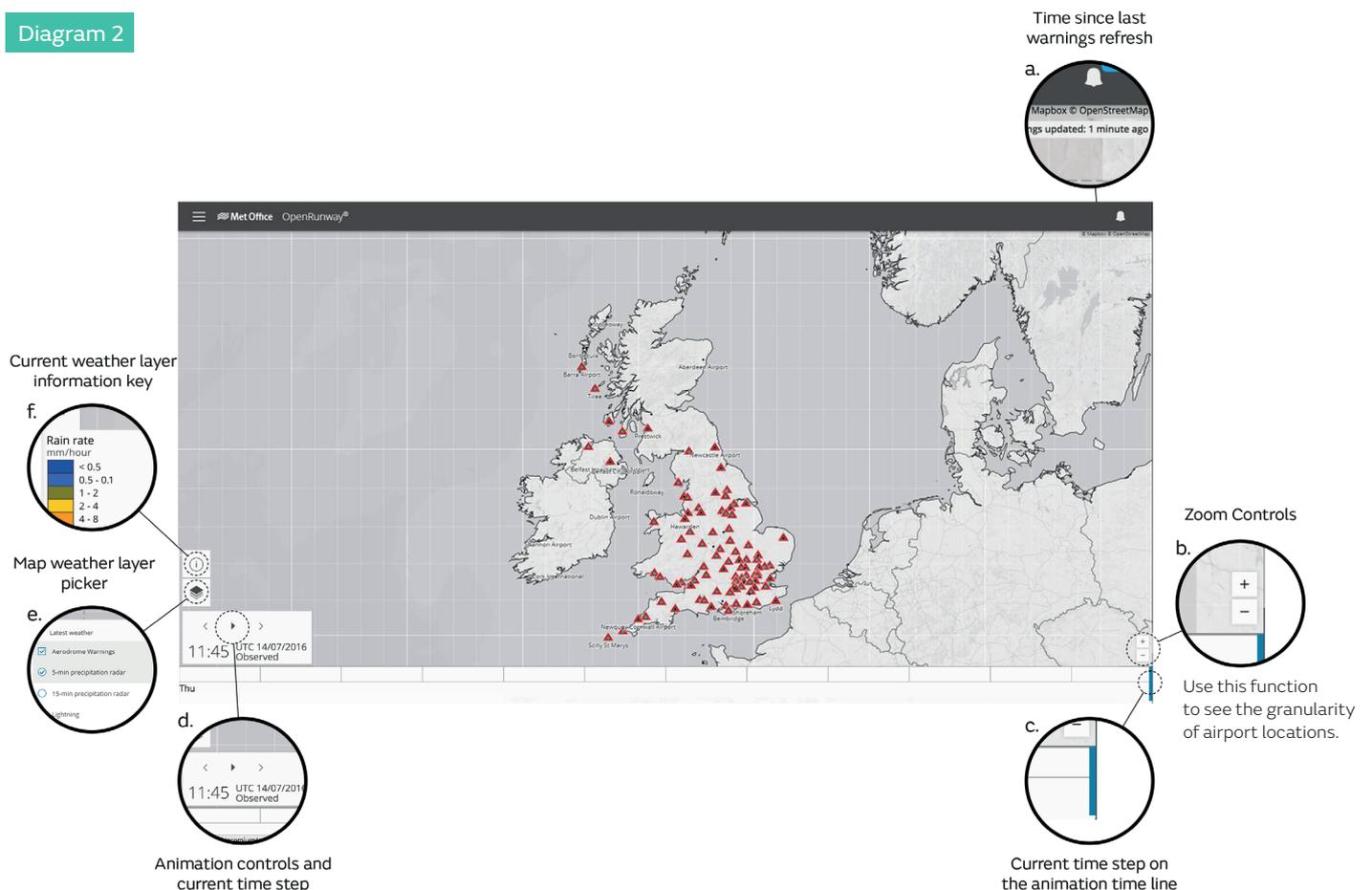
Accessing aerodrome warnings

The OpenRunway® product displays live aerodrome warning data to all of its users. Warnings are location specific and are displayed by a red triangle (Diagram 1/g).

There are three different ways to access aerodrome warnings within the product:

- a) Via the main menu.
- b) Via the 24 hour forecast table. When a warning has been issued for the airport displayed in the 24 hour forecast table, a red aerodrome warning triangle will appear at the top of the weather parameter label column (Diagram 1/g). (Note: if there are no warnings present for the selected airport location, this button will not appear in the parameter label column).
- c) Via the map. Aerodrome warnings are displayed on the map at locations where warnings have been issued. Tapping on the aerodrome warnings triangle on the map will take the user to the aerodrome warnings page for the airport selected location (Diagram 2).

Diagram 2



24 hour forecast table

On loading the application, the 24 hour forecast table will be displayed by default.

The table displays the RAG (Red/Amber/Green), giving an at-a-glance snapshot of its weather conditions. It displays:

- a) The last seven METARs covering the last three hours. These are displayed in the first seven columns in the table and are known as the 'observation columns'. The observation columns are updated every 30 minutes at ten minutes to and twenty minutes past the hour, (for example, 06:50 & 07:20 am).
- b) Forecast conditions for the next 24 hours. This consists in an hour by hour breakdown of the expected conditions displayed with a RAG status (Red/ Amber/ Green). The RAG statuses displayed are triggered by parameter threshold settings.
- c) Runway surface temperature and data from runway sensors (additional user subscription required).

The 24 hour forecast table has the following properties, of which users should be aware:

- a) The current date and time is always displayed above the table for ease of reference.
- b) When viewed on a desktop device, the 24 hour table defaults to a full width view, so that the maximum amount of data is displayed on the screen.
- c) Where a full width view is not available due to the users screen size, the table can be scrolled and moved around using a mouse to display any unseen data.
- d) On a tablet or smart phone, the table always displays the most recent observation column first upon loading the page. The current observation column is highlighted at the top of the table ([Diagram 1/b](#)).
- e) Weather parameters are shown with corresponding units of measurement in the left hand column.
- f) The table is set to automatically refresh the data in the table once every 5 minutes.
- g) A timer is displayed in the top right hand corner above the table, informing the user of when the page was last refreshed.
- h) A blue runway selector will appear at the top of the weather parameters label column to select another runway. This can be used to change the runway data displayed in the table.
- i) The following codes apply to the weather parameter 'Runway state':
 - a. Dry = D
 - b. Damp = Dp
 - c. Wet = W
 - d. Wet & raining = R
 - e. Frosty = F
 - f. Lying snow = S
 - g. Icy = I
 - h. Unknown = blank
- j) The following codes apply to the Cloud

FEW	Few
SCT	Scattered
BKN	Broken
OVC	Overcast
NSC	No significant cloud
- k) The following codes apply to weather type

SN	Snow
TS	Thunderstorms
FZRA	Freezing rain
FZDZ	Freezing drizzle
RASN	Rain and Snow (sleet)
SG	Snow Grains
GS GR	Big/Small hail
FG	Fog
RA	Rain
- l) The weather parameters 'Upper wind direction & Upper wind speed' show data at 3000ft.

Note: The weather parameters 'Rain amount' and 'Falling snow' provide accumulative forecasts in the previous hour. This means that:

A data point for 1200Z = the amount forecast to accumulate between 1100-1200Z.

RAG statuses in the 24 hour forecast summary table

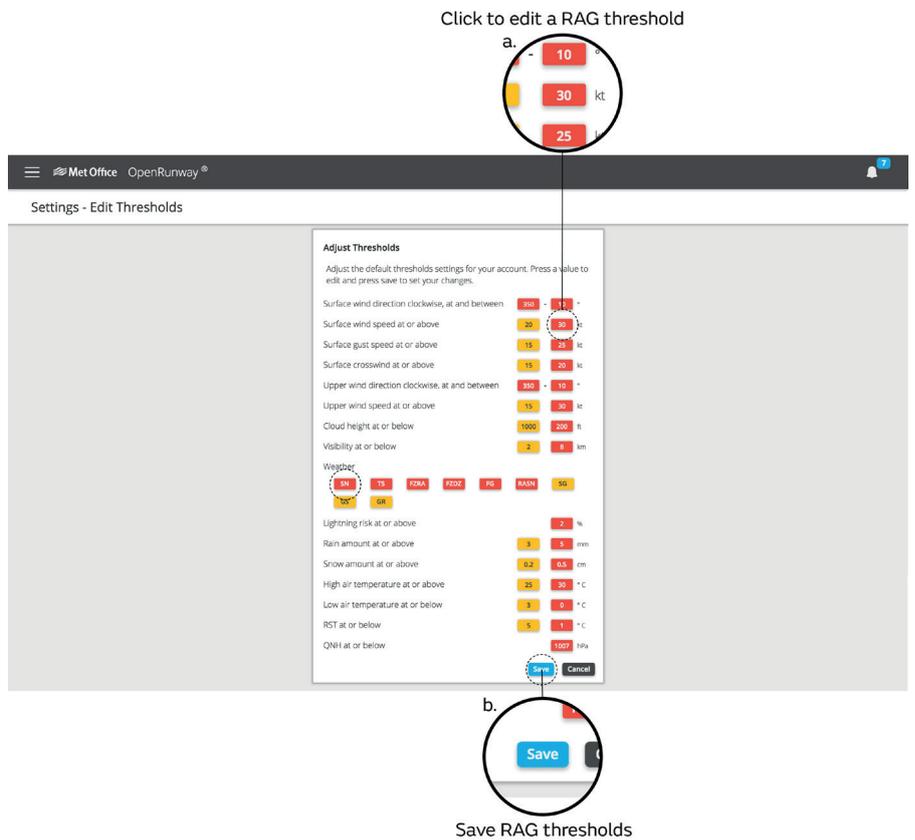
The 24 hour forecast summary table displays RAG statuses (Red/Amber/Green), for the weather parameters listed in the parameters label column down the left hand side of the table.

The RAG statuses displayed in the table are dependent on the thresholds set by admin users (please see [Diagram 3](#) for the default threshold values).

Where airport or runway specific thresholds are required, please contact your Met Office Account Manager.

Diagram 3

Note: Where there is no RAG status for a particular threshold, the table will display data with a WHITE background. These rows include dew point and runway state (Diagram 1/f). In the event that a RAG status cannot be determined, the table will display data in the relevant cells with a GREY background.



Wind direction RAG statuses

The wind direction threshold will be triggered in the following scenario.

If the wind direction is between the two values set in the threshold, the colour of the wind direction cell in the 24 hour forecast summary table will be determined by the worst of either wind speed, or wind gust.

These rules apply for upper and surface wind direction with corresponding upper/surface speed and gust thresholds.

Cloud amount/ cloud base RAG statuses

The cloud threshold calculation is based on a combination of cloud amount, (measured in oktas), and cloud base (measured in feet).

The cloud height/base threshold specified by a user will only be triggered if the cloud amount for that time period is also ≥ 5 oktas.

Setting RAG thresholds

OpenRunway® offers two levels of access for setting RAG thresholds:

- a) Admin users have the ability to configure the organisation, individual airport to suit operations via the ‘thresholds’ menu item.
- b) Non admin users have access to a read only version of the threshold key, accessible from the main navigation menu titled ‘thresholds’. The thresholds key lets non admin users know what thresholds are set to trigger RAG statuses in the 24 hour forecast table.

Forecast PDF

A forecaster generated PDF forecast summary is available to users who subscribe to the service by clicking on the “Forecast PDF” menu item.

These documents are generated on a daily basis by Met Office forecasters, specifically for a user’s chosen airport.

When the clicking on the forecast PDF menu item, the document opens in a new tab. From here a user can print, share and save the PDF via the browser controls.

Forecaster summary

A forecaster generated summary is available to users who subscribe to the Forecast PDF service, and can be accessed by clicking on the Forecast Summary menu item in the main menu.

If your subscription allows for visibility of forecast summaries for other airports, you can change the airport being displayed via the blue change location menu item.

Map

OpenRunway® displays weather layers overlaid on a map. When displayed, the map will initially show the whole of the UK.

Map constraints are in place to guide users back to the UK should they navigate too far off the main screen.

The user can zoom using the mouse scroll wheel or zoom control buttons on the bottom right hand side of the screen on a desktop computer (Diagram 2/b).

When on a mobile device, users can zoom in and out of the map by using two fingers to perform a ‘pinch’ gesture.

Map layer picker

The user can change the visible weather layers by selecting the layer picker at the bottom left hand side of the screen.

Within the layer picker and under ‘latest weather’, users have the ability to toggle aerodrome warnings on off (Diagram 1/e).

Map layer keys

Users can access keys to map layers via the map layer key (Diagram 2/f).

Map animation controls

When selecting a weather layer to appear on the map, an animation bar and animation control box will appear at the bottom of the screen (Diagram 2/d).

The animation box will show the user what time steps are being displayed as they animate the layer (Diagram 2/c).

Five day de-icing forecast

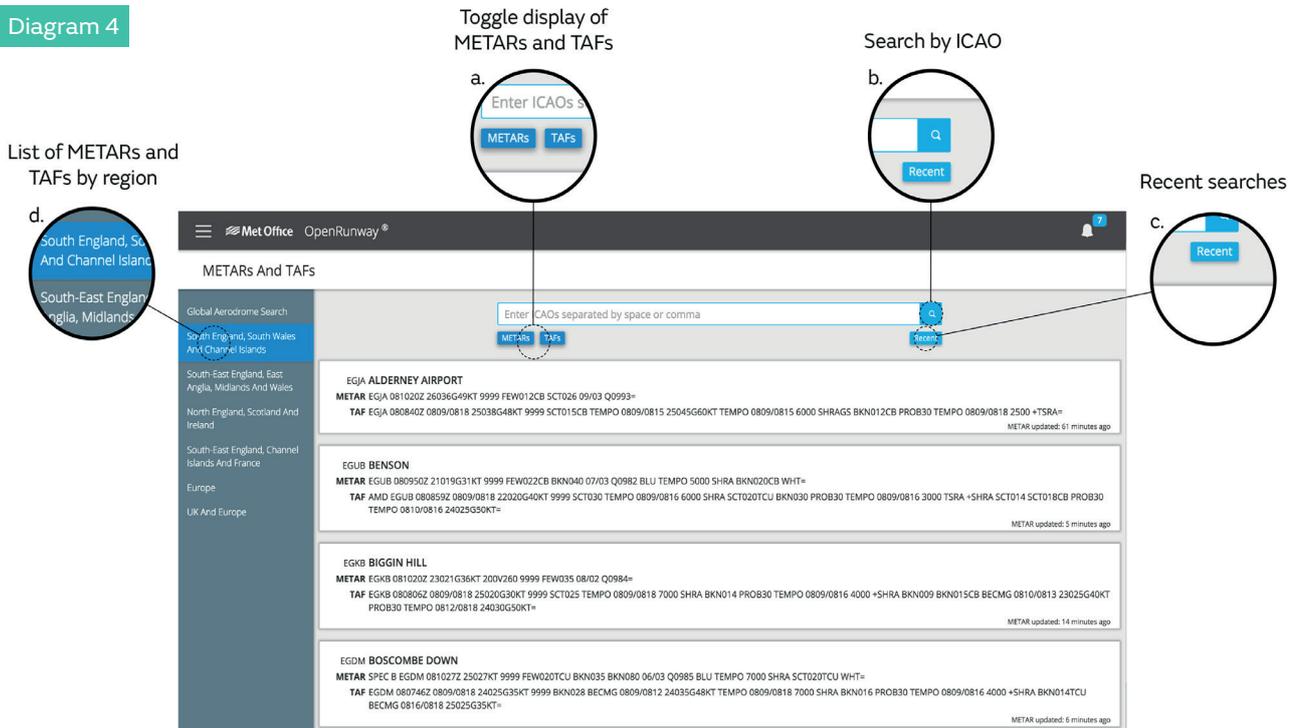
Users who subscribe to this additional feature of OpenRunway® have access to this feature via the main menu.

The 5 day de-icing forecast displays a RAG (Red/Amber/Green) forecast applicable to de-icing aircraft in tabular format.

TAF & METAR

TAFs and METARs are available to all users of OpenRunway®, and are accessed via a menu item in the main navigation menu titled “TAFs and METARs”. Users can choose to view pre-defined lists of TAFs and METARs (Diagram 4/d).

Diagram 4



The six pre-defined lists available to users are:

- 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

On smart phones, a regions button is displayed on the METAR/TAF list page. When tapped, the region list page is displayed, replacing the METAR/TAF list.

Further information

The TAFs & METARs list is sorted alphabetically by aerodrome name (A top to Z bottom).

The TAFs & METARs list is automatically refreshed every 5 minutes.

While loading a list of TAFs & METARs (other than during auto-refresh), the message “Loading ...” is displayed.

Note: If no METAR is available for a location, the message “No METAR available” is placed where the METAR would have been displayed.

If no TAF is available for a location, the message “No TAF available” is placed where the TAF would have been displayed.

If a METAR or TAF cannot be retrieved, the message “METARs and TAFs unavailable” is displayed in place of the TAFs & METARs list.

TAF & METAR search functionality

The user can choose to search for aerodromes in order to view TAFs and METARs. Searches can be performed by ICAO code (Diagram 4/b).

When a search has been performed the default message, previous search results list, or region list is replaced by the new search results/error messages as appropriate.

Users are able to display a list of recent searches by clicking on the blue ‘recent’ button (Diagram 4/c).

TAF & METAR on/off toggle

The user can choose to display TAFs, METARs, TAFs and METARs, or neither, by using a toggle on and toggle off function (Diagram 4/a).

Help, my services & logout

Clicking on the “Help” menu item will take users to a Met Office web page, where additional information on OpenRunway® and the user guide PDF document can be found.

Clicking on the “My services” menu item will take users back to the WAVE dashboard where they can access other Met Office products and services.

Clicking on the “Log out” menu item will log users out of the application.