VisualEyes™

User Guide

Contents

Introduction

VisualEyes is a web-based weather and forecast delivery system. The visualisation provides a wide array of weather information and Met Office forecast services. The key features are accessed via the main menu:

Control Room

The control room view provides a Visualisation for:

- Weather layers that can be added to the map for recent and forecast weather parameters;
- A site list with a summary of alerts and threshold breaches in the forecast, and indicators of the current observed and forecast lightning.

Weather Charts

The Weather Charts view offers:

- Detailed probabilistic forecast data;
- Access to Smart Windows for identifying compound risks and operational weather windows;
- Alert Summaries and chart export to a pdf.

The Weather item

The weather option on the menu provides:

- Access to SYNOP and NCM weather observation data
- Access to other resources such as documents and other weather services
- Export function that creates an output file for all your sites, for all weather parameters, for all time steps

Weather Warnings

A link to the National Severe Weather Warnings Service is provided for convenience, and is colour coded to match the highest current weather warning in the UK.

Settings

The Settings menu is accessible to SuperUsers, and provides access to:

- Threshold management screens where alert settings can be activated and adjusted;
- Regions management;
- Control to define the alert period.

Help

The help and support function provides access to the user Guide and information on how to contact the Met Office when you need advice or support from the Met Office.
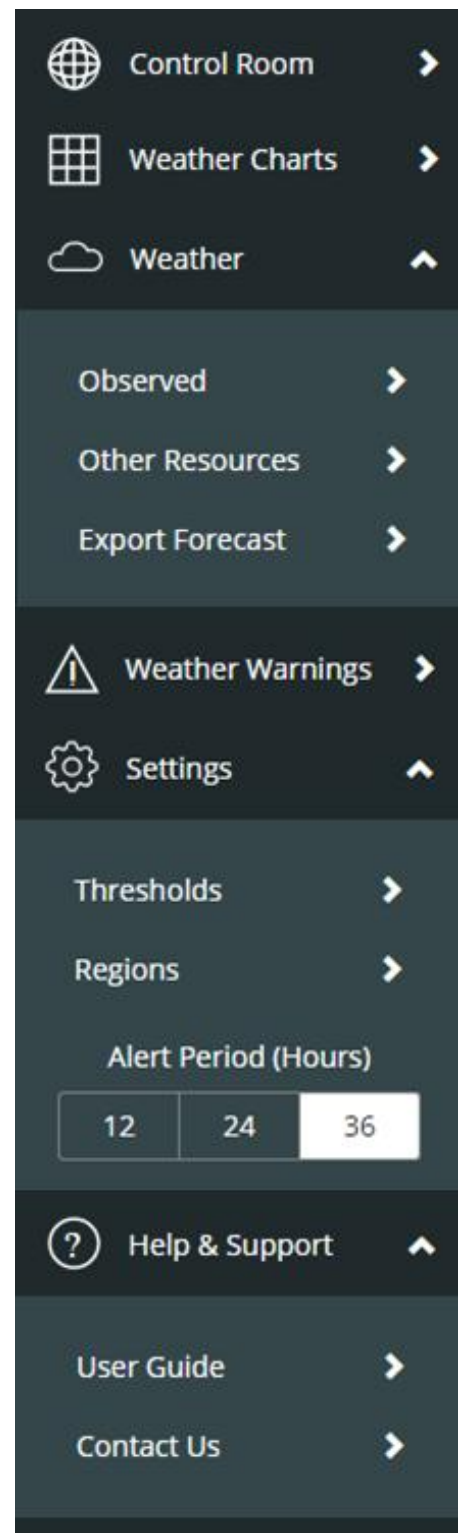
Purpose and use of VisualEyes

VisualEyes can help with reactive and proactive decision making for operational managers and workforce personnel:

- Planning maintenance schedules;
- Managing operational risk;
- Health and safety, compliance, and risk management;
- Monitoring conditions effectively at multiple sites;
- Assisting with site and task risk assessment;
- Identifying the optimum time for power generation.

It is suitable and valuable for operations involving working at height and where there is sensitivity to weather conditions (e.g. Lightning, wind, precipitation, icing, and temperature):

- Operational managers will find it useful for workforce and risk management, and for forward planning of works;
- Site personnel will find it useful for performing risk assessments, and planning their day;
- Senior managers will find it useful for understanding the macro weather impacts to infrastructure and production.

Because VisualEyes can be accessed from desktop, tablet, and mobile phone devices, it ensures that different roles within the company all have access to the same centrally managed data and weather alerts, reducing the risk of missed communications, or the need to rely on other weather applications that may not use Met Office forecasts.

It should be noted that because some features are dependent on a particular user type, screen resolution, or have large data transmission requirements, not all features are available on mobile devices, most notably the map and SuperUser administration functions.

VisualEyes can be used to generate alerts for specific weather conditions so that risks are highlighted. These alerts can be disseminated automatically as e-mail and SMS texts as appropriate, so that potential hazardous conditions are automatically shared across your workforce.

VisualEyes allows customers to easily view weather conditions at multiple sites, at a glance. The primary components are:

- Map Viewer - this gives both observed and forecast weather and alert information;
- Alert Panel - Provides a detailed breakdown of which weather parameters are generating alerts;
- Planning Charts - Generation of a customisable weather analysis report for up to 14 days
- Smart Windows allow users to define and chart combined weather parameters to reveal weather windows for operations or more complex hazards.

## VisualEyes Configurations (Full and Lite versions)

There are different configurations of VisualEyes that have different content options depending on the contract. In general, this document describes the full version with all content and functionality, but there is a lite version that is suitable for users with a restricted budget and where a reduced content set and shorter forecast is acceptable. The Lite version has a reduced number of weather layers available on the Control Room map view, and only presents site specific forecast data to a maximum of seven days rather than 14. The map layers included in the Lite version are:

- Weather Layers:
  - Precipitation Accumulation (6 hours);
  - Rain and Snow;
  - Temperature;
  - Wind and Gust;
  - Lightning;
  - Precipitation Over Cloud
- Geographic Layers:
  - Place Names
  - Motorways
  - Rivers

Location Variants

VisualEyes is also available with two content sets:

- The UK forecast area only (UKV Model);
- The European forecast area that includes the UK (Euro4 Model).
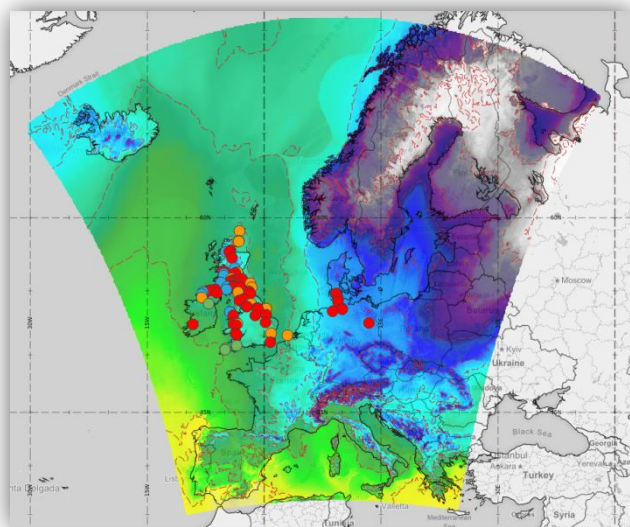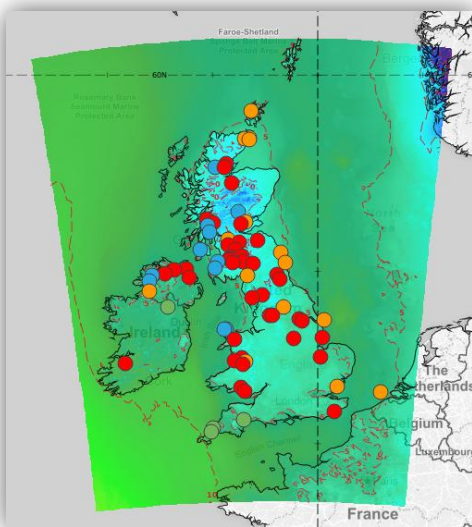
Icing

Some customers have requested, and are taking part in the testing and development of functionality aimed at predicting blade icing on wind turbine blades. This is a limited service and is not available to all customers. Please contact your account manager if you would like to take part in this development.

Turbine Blade icing, or the icing of other structures is a complex process, and is subject to ongoing research and development. This feature is provided as our best current understanding. The user is advised to assess the accuracy of the warnings for their specific structures.

The occurrence of icing presents safety, production, and maintenance challenges to wind turbine operators, and the Met Office has developed an experimental process to forecast icing alerts which is a development of our experience in predicting icing in other areas such as aviation, bridge superstructures, and overhead electricity lines.

The process looks at the contributing weather factors such as weather type (e.g. Light Rain), temperature, humidity, etc. to determine the likelihood of icing as high, medium, or low. Currently VisualEyes only shows an amber or red alert icon to indicate a possible icing incident, there are no charts.

System Requirements

VisualEyes V2 is tested and supported on the following system specification. However, it may still work with other 3rd party systems or software not stated.

Recommended Operating systems and Browsers

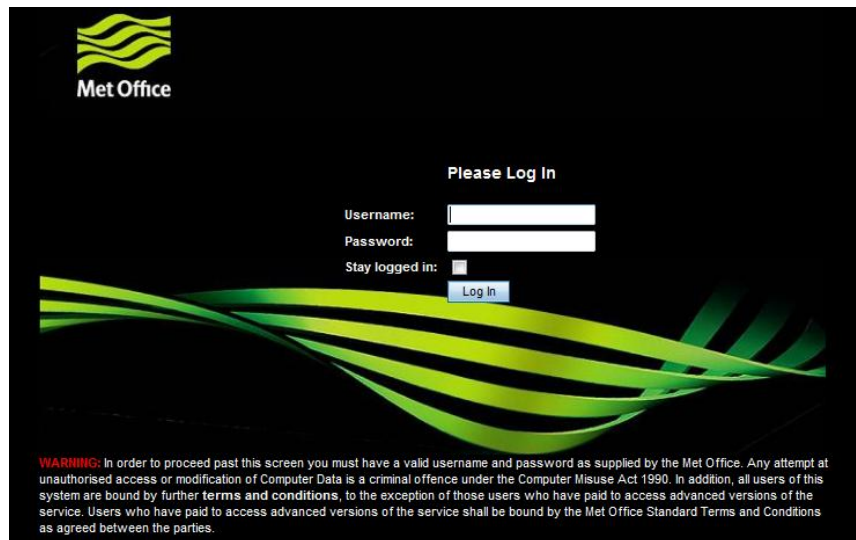| Operating System	Web Browser	Internet Connection
Microsoft® Windows® 7 +	Internet Explorer 11 Google Chrome 42 Mozilla FireFox 38	Broadband connection 2 Mbps +

Mobile Device Service Requirements

VisualEyes V2 is tested on the following mobile devices. However, VisualEyes V2 may still work with other 3rd party devices or software not stated.

| Device	Operating System	Web Browser	Screen Size / resolution	Internet Connection
iPhone 5s	iOS 8	Safari 7	4 inch 640x1136	Wi-Fi and 3G/4G, 2 Mbps +
iPad 4	iOS 8	Safari 7	9.7 inch 2048x1536	Wi-Fi, 2 Mbps +
Samsung Galaxy S4	Android 4.2	Android Browser, Google Chrome	5 inch 1080x1920	Wi-Fi and 3G/4G, 2 Mbps +
Google Nexus 7 (2013 version)	Android 4	Android Browser, Google Chrome	7 inch 1920x1200	Wi-Fi, 2 Mbps +

Accessing the Service

Logging In

The initial screen can be accessed via your internet browser using the URL http://www.metoffice.gov.uk/premium/myservices/ and will require a Username and Password. These will be supplied for your SuperUser by your Account Manager.

⚠ Please note that the Password is case sensitive. If you have any problems logging on, please contact the weather desk on telephone: 01392 886666. Please have details of your User Name and Password when you call to enable us to deal with your enquiry promptly.

Once successfully logged on, you will be able to click on the VisualEyes icon to open the product.
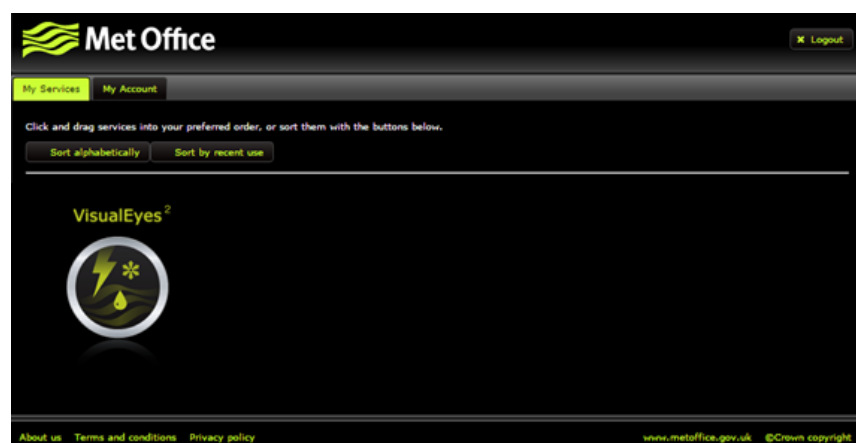
Logging Out

Click on the user icon at the top right of the application to "Logout" or return to the WAVE interface by selecting "My Services".
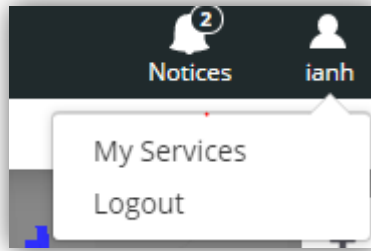
The My Services option will return you to the login interface where you can manage your contact and alerting details, or access any other Met Office products that you may subscribe to.

The "Logout" option will log out of the Met Office interface.

User Types

Users are set up with one of three possible profiles:

- **SuperUser;**
    - Access to all functions including:
        - Create, edit, and delete users (manager and standard users only), if additional SuperUsers are required, please contact your account manager or the help desk;
        - The settings menu for Threshold, Alerts, and Regions management;
        - Create, edit, and delete Smart Windows.
- **Manager**
    - No access to creating new users, but including:
        - The settings menu for Threshold, Alerts, and Regions management;
        - Create, edit, and delete Smart Windows.
- **Standard**
    - Does not include the ability to:
        - Modify settings;
        - Create, edit, or delete Smart Windows.

The Control Room View

The Map View
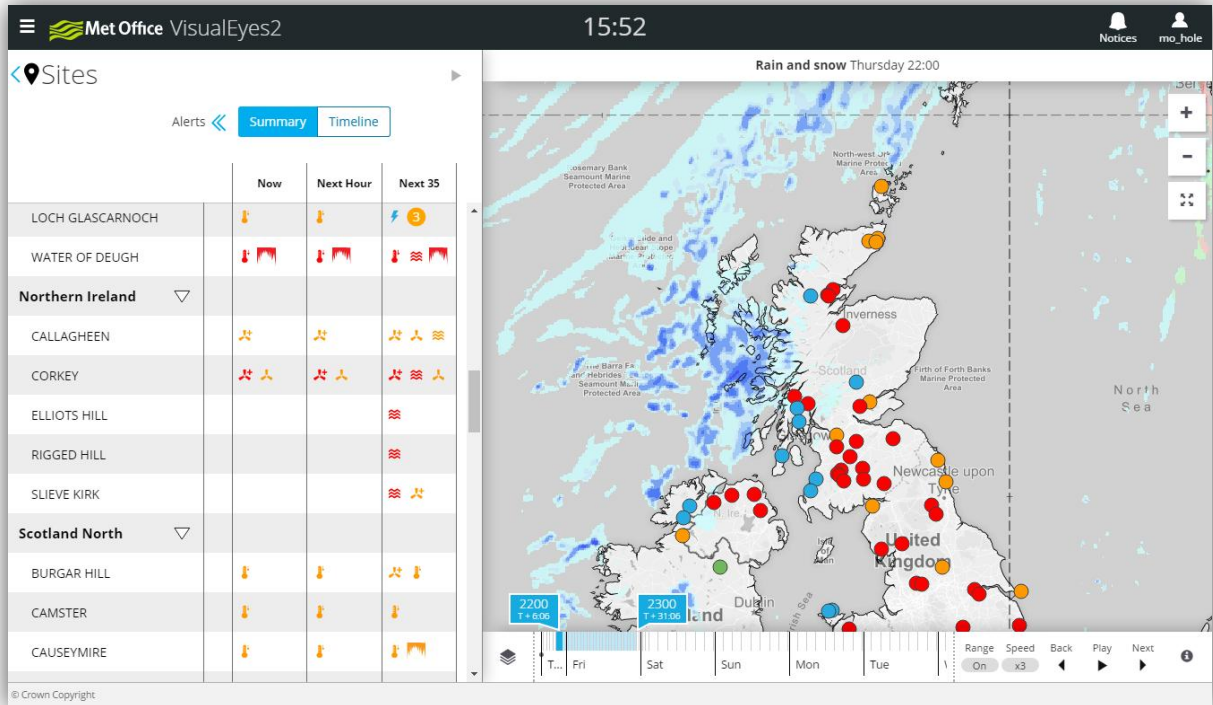
The Control Room view is the first view that a new user will see, and it incorporates a great deal of information.

The map is a basic foundation over which various geographic layers (e.g. roads, rivers, etc.), and weather layers (e.g. cloud and precipitation, shown above) can be added.

Zoom and Pan

The map can be zoomed using the on-screen controls to set the appropriate level of magnification. The Reset Zoom button will set the magnification to the initial default. The map can also be zoomed by double clicking the map, or by rolling the mouse wheel (on a touch screen the pinch gesture can be used).
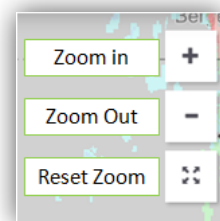
The map can be panned to position it by dragging with the mouse (or by a finger slide on a touch screen).

The map and animation control bar at the bottom of the map shows the tools that are available to the user. Some elements will only be available when they have a valid function, for example, the animation options will only be visible when a layer that supports animation

is displayed:
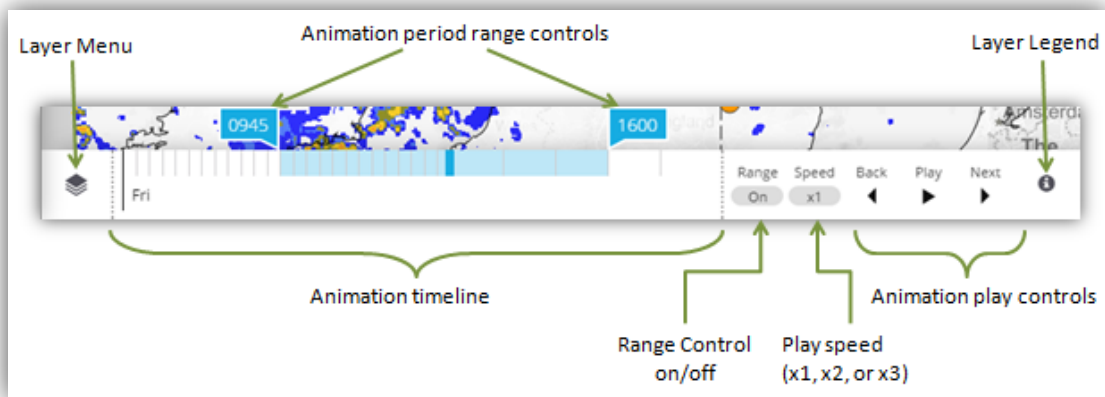
When the Range controls are activated they will remain active when changing between layers; note however that the timelines on different layers may have different time ranges or different time steps, so animation period may need some adjustment to achieve the same animation period.

Site Markers

All the sites where a site specific forecast has been requested are marked by a coloured marker; the colour of the marker indicates the current alert status – in order of priority they are:

- o Blue: Lightning has been observed in the last 30 minutes, or is forecast;
- o Red: At least one red threshold is forecast to breach;
- o Amber: At least one amber threshold is forecast to breach;
- o Green: No alert threshold breached for the entire alert period (12, 24, or 36 hours);

The location markers only display one colour and that indicated the most serious breach in the forecast for the alert period set by the SuperUser. This means that a Blue alert may conceal red or amber alerts, and a red may conceal amber alerts. If the map is zoomed in to a site, then the marker will adopt an icon to illustrate the current most severe weather warning type (The example below is a snow warning).

Selecting a site marker will open a "pop-up" window with details of the timelines for all alerts on the site selected.
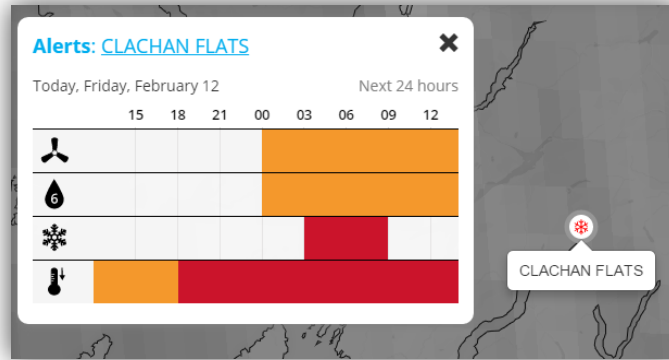
Within the pop-up, the various weather parameters that are breaching an alert threshold are displayed (hovering over a icon will reveal a description of the icons meaning), and clicking on the site name will open the detailed weather Charts.
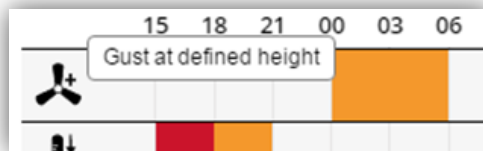
The Summary Panel

A key feature of the Control Room View is the Site List and Alert Summary Panel. This can be expanded or collapsed to show a full summary as a timeline or as a more detailed summary. Closing the alerts panel will leave just a site list with lightning status, and the site list can also be hidden when the user wishes to view only the map.
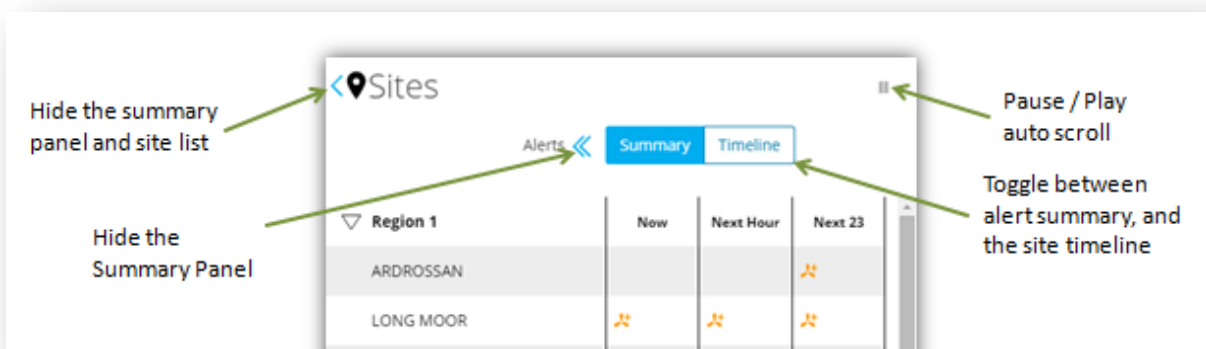
Clicking on a site in the site list will centre and zoom the map to the site

Double clicking on the site name will open the Chart view

How VisualEyes Prioritises Alerts

Within VisualEyes we have selected a relative priority to alerts to determine how we display alerts and the associated icons. This is based upon the feedback we receive from users.

It is important to be aware of this so as not to miss important information. A worker at height will have more interest in lightning than someone working below ground, and the reverse may be true for heavy rainfall.

The relative hierarchy applied within VisualEyes, starting with the highest priority, is as follows:

- Lightning
- Hub Height Gust
- Hub Height Wind
- Surface Gust
- Surface Wind
- Rain
- Snow
- Temperature
- Visibility

In addition, any red is of higher priority than any amber warning and a lightning alert is higher than any other alert.

Weather Charts
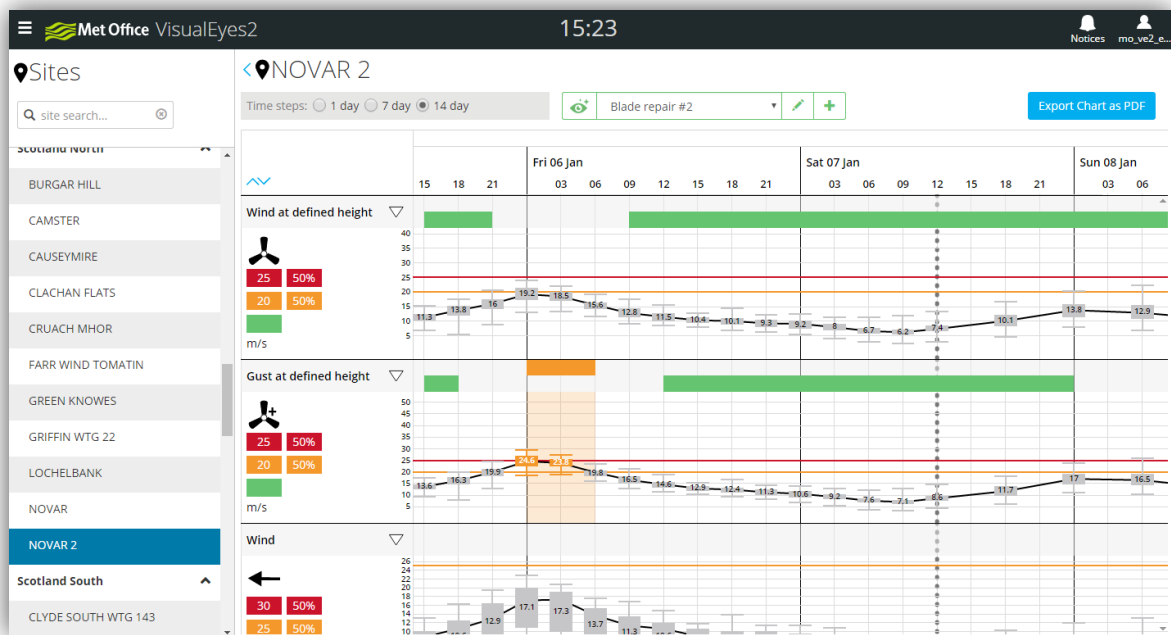
The charts view is divided into two parts:

1. The site list which allows the user to select a different sites (this panel can be hidden);
2. The charts that show the probabilistic forecast as a box and whiskers representation, and timelines for alert threshold breaches and Smart Windows.

Each weather type is presented as a chart, and all parameters for which it is possible to set a threshold, are displayed, plus probability of lightning.

The charts show forecast threshold breaches for 36 hours, and the charts are coloured to reflect the threshold breach type (red or amber). In addition the threshold levels are shown as amber and red lines on the charts so that the user can easily see how the curve relates to the thresholds.

Note that while the charts show threshold breached out to 36 hours, this is not the same as the notification of alerts which may have been restricted to 12 or 24 hours by the SuperUser. You can see the alerting period in the alert summary panel on the control room view:

| Now | Next Hour | Next 23 |

Here the alert period has been set to 24 hours.

Hovering over the box and whiskers will produce an information pop-up box with details of the percentile values levels.
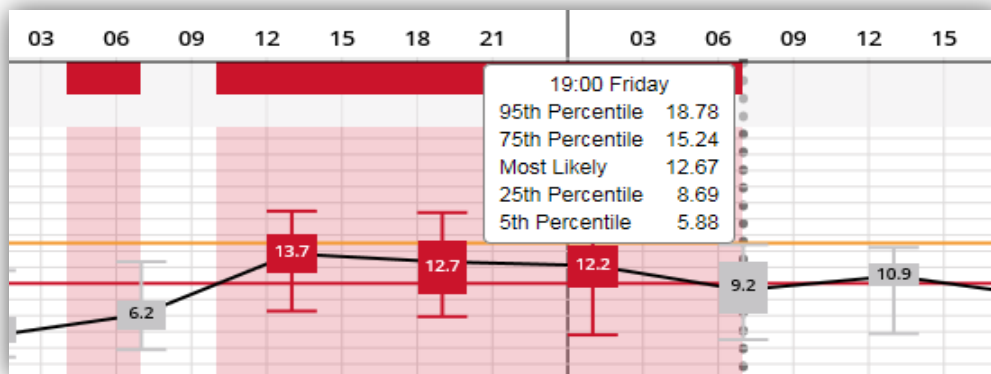
Box and Whiskers Charts

Representation of the Probabilistic Forecast

The met office produces probabilistic forecast through a process known as ensemble forecasting. Ensemble forecasting involves producing multiple forecasts (ensembles) with slightly different starting conditions; the degree of variation is an acknowledgement that we do not know the starting conditions perfectly in all locations. The result is a set of forecasts that produce slightly different outcomes. The degree of variation between the forecasts reflects how confident we can be in forecast. Where the outcomes are very similar, then we have higher confidence in the forecast, because it suggests that the computer model is less sensitive to the initial uncertainty over the starting conditions. Conversely, when small differences in the starting conditions result in wide variation in the outcomes, then our confidence is lower.

The Box and Whiskers presentation represents the distribution of the forecast ensembles and allows a user to see the both the most likely forecast and the possible extremes. The

height of the box and the length of the whiskers gives the user a visual representation of confidence, which can be useful in understanding operational risk.

The central box represents the 25th to 75th percentile, or the centre 50% of the ensembles, and the Whiskers represent the 5th to 95th percentile. This means that the chart shows the spread of the data excluding only the most extreme values.
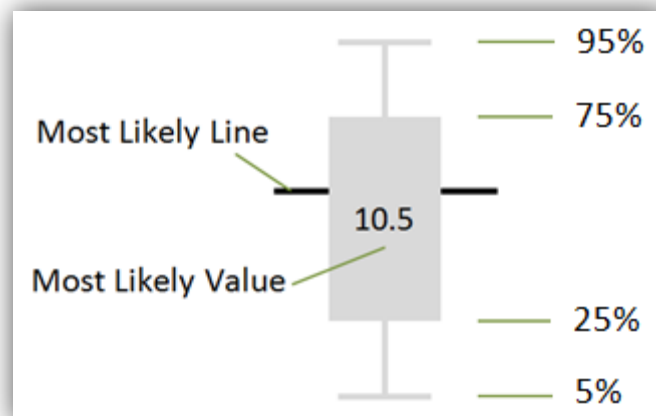
In the example below, we see an area where the box and the Whiskers reflect a small degree of variation (a small box and short whiskers), and here we can have a relatively high level of confidence in the forecast; to the right we see an area where the variation is higher, and so the confidence is lower. The line running through the boxes indicates the most likely forecast level.
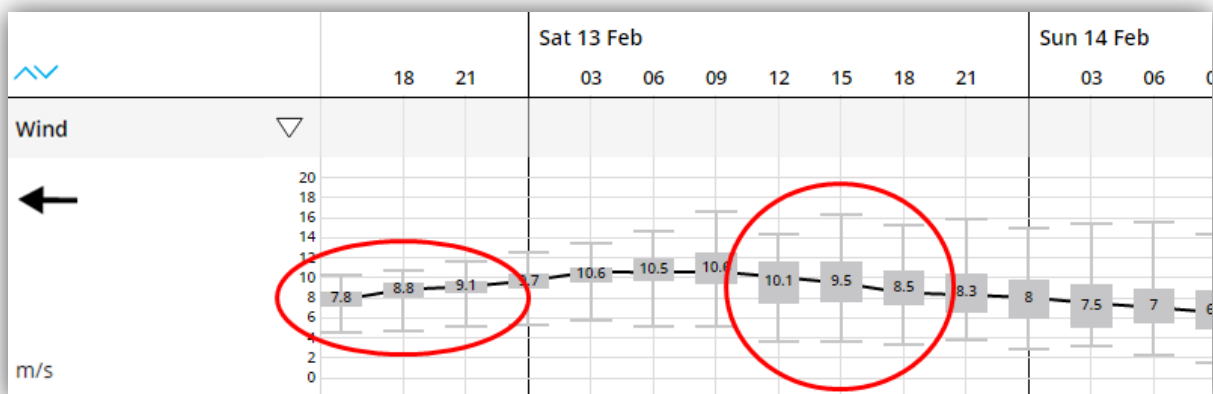
We might expect that confidence will decrease with time, and to a degree, it does. However, we will often see periods of low confidence followed by periods of high confidence; events of this type may be associated with the passage of a weather front or a storm followed by more settled weather.

Managing and Printing Charts

When viewing the charts, you are presented with a full set of charts covering all the weather parameters for which it is possible to set an alert threshold. You can customise the view buy reordering the charts and minimising or collapsing them. This is an important feature because selecting the Export Chart as PDF button will produce a PDF document that reflects the charts as they appear on the screen.

Reordering the Charts

Selecting the reordering icon will activate arrow icons allowing you to move charts up and down relative to each other
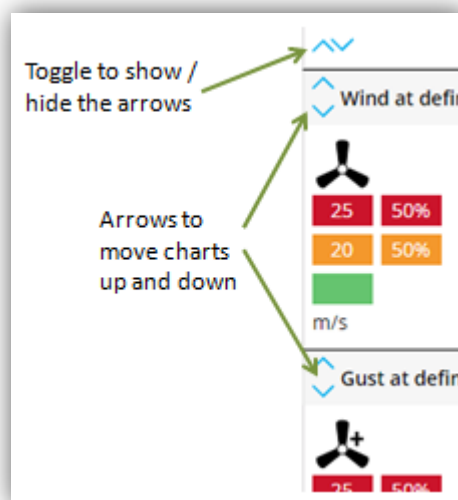
Minimising Charts

Click the triangular arrow icon in the top left of any chart to minimise/expand the charts to switch between time line and the Box and Whiskers view.

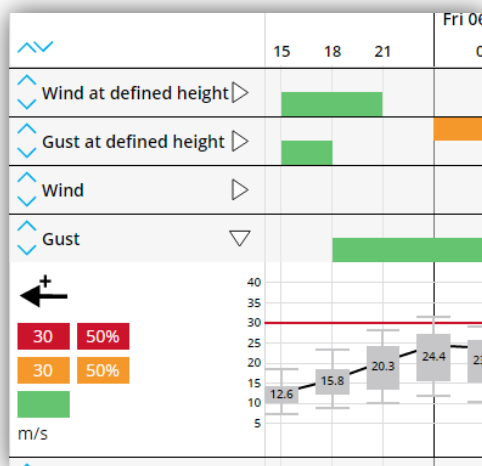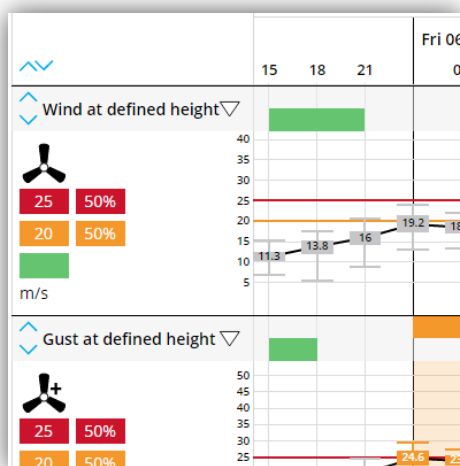## Smart Windows

Smart Windows are a feature of the chart view. They can be used to identify weather combinations that can help the user to identify combinations of weather parameters that might suggest complex hazards, or identify operational weather windows.

The user can define multiple smart windows, which are then shared across the organisation (some user types may not be able to create or modify Smart Windows) so that any user can use any Smart Window.

When the Smart Window is displayed on the chart it is as a green bar. The green bar on the individual weather chart indicated when that weather parameter is within specification. When all the specified weather parameters are within specification, then a green bar is displayed above the chart area – this will indicate your operational window, or hazard.
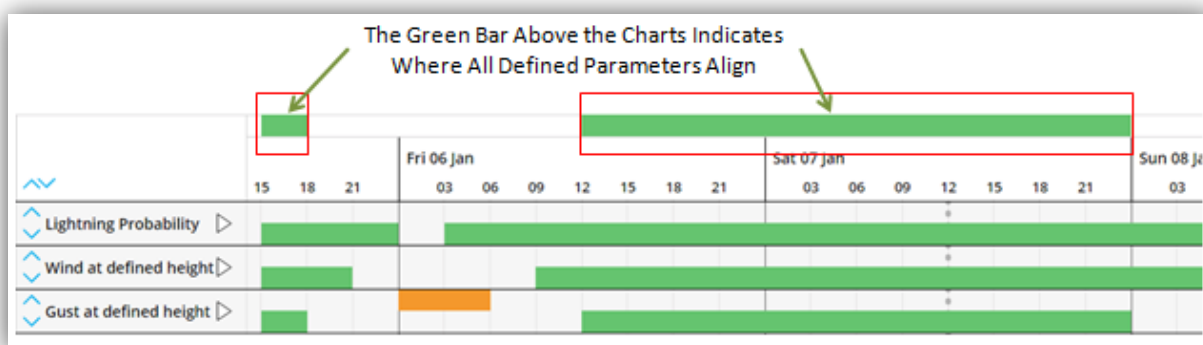
Smart windows are easily applied from the drop down box above the charts:
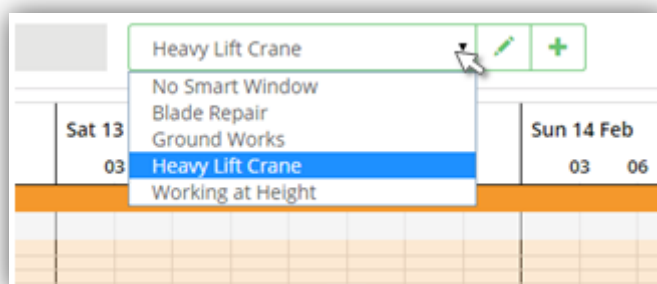
Define a New Smart Window

On the Smart Window control, select the add symbol:
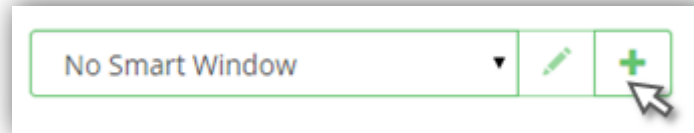
This will open the Smart Window management:
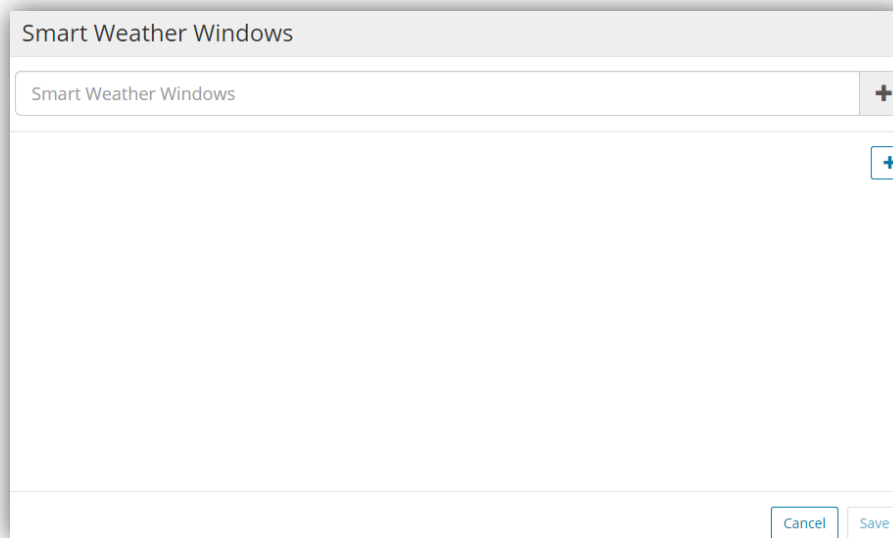
Enter a name for your new Smart Window – this will be shared across the company, so use a name that others will understand, and you may want to prefix it with your initials or follow an agreed convention so that you can find it easily and share it with colleagues without confusion.

After providing a name, you can go ahead and add weather parameters to define your requirement. You can add as many or few parameters as you want, but each parameter can only be added once.
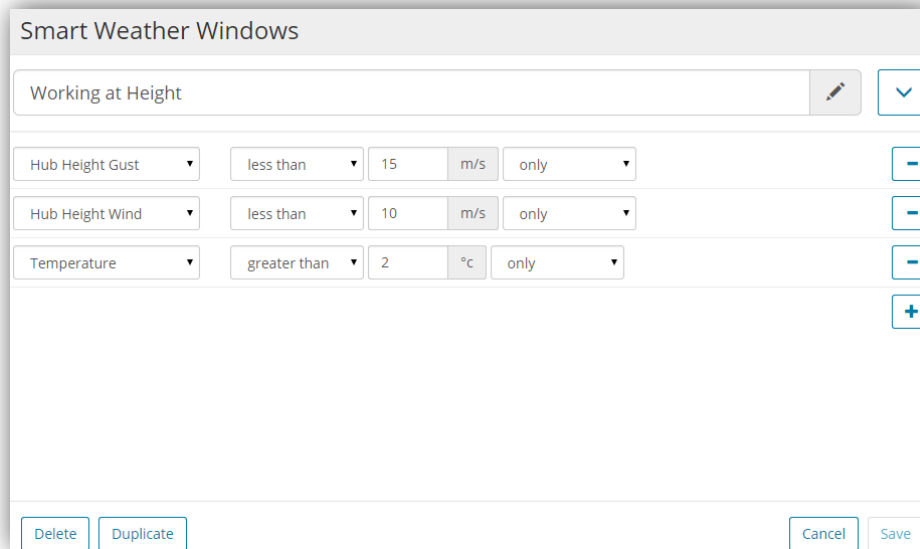
Remember that you can adjust and modify them at any time by selecting the edit button.

Once you have defined a smart window you can edit, delete, and duplicate it as necessary.

Note that while the threshold alerts are based in the probabilistic forecast, the Smart Window is based only upon the most likely forecast (the solid line linking the boxes). However, because the Smart Window is displayed on the box and whiskers chart you still have a clear view of the forecast confidence Smart Window and the relative forecast confidence.

Weather

Under the "Weather" menu item you will find other resources that are generated outside the VisualEyes application. They include

Weather observation data:

- SYNOP Observations are provided for UK hourly observations for all UK stations for the last 24 hours by selecting specific locations. The data consist of:
  - Wind direction (8 point compass);
  - Wind speed (knots);
  - Wind gusts (knots);
  - Visibility (kilometres);
  - Temperature (degrees Celsius);
  - Dew point (degrees Celsius);
  - Pressure (Millibars);
  - Pressure Trend e.g. rising, falling;
  - Weather;
  - Hourly sunshine amount (hours);
  - Snow depth (centimetres).
- Temperature, Rainfall and Sunshine Reports (NCM). These reports are produced twice a day at 0900 and 2100 UTC. The periods covered for each recorded element are (unless otherwise stated): 0900 report – from 2100 the previous day to 0900 on the day of the report 2100 report – from 0900 to 2100 on the day of the report Includes:
  - Maximum Air Temperature (degrees Celsius);
  - Minimum Air temperature (degrees Celsius);
  - Minimum Grass Temperature (degrees Celsius);
  - Rainfall amount (millimetres);
  - Sunshine amount (hours).

Links to other forecast information:

- Synoptic Charts;
- Shipping forecast;
- inshore waters and strong winds forecast.

Export Forecast:

The "Export Forecast" option will download a file for all your sites with the percentile data for all time steps. Be aware that this will take a few seconds to download (Microsoft Internet Explorer will take significantly longer) during which time the product will not be

usable. This inconvenience can be avoided by selecting the "Export Forecast" option with the right hand mouse button, and selecting "Open in a new tab".

The file will be delivered in a CSV (coma separated values) and can be opened in most spreadsheet applications. The format is as follows:

	A	B	C	D	E	F	G	H	I	J
1	site	sspa_id	weather_type	timestamp	5th_percentile	25th_percentile	most_likely	75th_percentile	95th_percentile	
2	EXETER	251	WIND_SPEED	2016-09-05T09:00:00Z	0.71	2.21	2.54	3.08	4.49	
3	EXETER	251	WIND_SPEED	2016-09-05T12:00:00Z	1.27	2.47	2.96	3.36	4.43	
4	EXETER	251	WIND_SPEED	2016-09-05T15:00:00Z	1.21	2.53	3.04	3.44	4.43	
5	EXETER	251	WIND_SPEED	2016-09-05T18:00:00Z	0.96	1.99	2.55	3.06	4.22	
6	EXETER	251	WIND_SPEED	2016-09-05T21:00:00Z	0.03	0.47	0.84	1.35	2.26	
7	EXETER	251	WIND_SPEED	2016-09-06T00:00:00Z	0.03	0.78	1.31	1.68	2.49	
8	EXETER	251	WIND_SPEED	2016-09-06T03:00:00Z	0.16	0.62	1.01	1.28	2.39	
9	EXETER	251	WIND_SPEED	2016-09-06T06:00:00Z	0.06	0.77	1.11	1.4	2.54	
10	EXETER	251	WIND_SPEED	2016-09-06T09:00:00Z	0.03	1.14	1.61	2.03	3.32	
11	EXETER	251	WIND_SPEED	2016-09-06T12:00:00Z	0.71	2.63	3.08	3.45	4.27	
12	EXETER	251	WIND_SPEED	2016-09-06T15:00:00Z	0.94	3.09	3.42	3.77	4.6	
13	EXETER	251	WIND_SPEED	2016-09-06T18:00:00Z	1.74	2.27	2.76	3	4.11	
14	EXETER	251	WIND_SPEED	2016-09-06T21:00:00Z	0.8	1.48	1.94	2.58	3.2	
15	EXETER	251	WIND_SPEED	2016-09-07T00:00:00Z	0.29	0.91	1.31	1.99	3.73	
16	EXETER	251	WIND_SPEED	2016-09-07T03:00:00Z	0.46	1.4	1.91	2.45	3.7	
17	EXETER	251	WIND_SPEED	2016-09-07T06:00:00Z	0.52	1.89	2.6	3.59	5.4	
18	EXETER	251	WIND_SPEED	2016-09-07T09:00:00Z	1.32	3	4.19	4.95	6.05	
19	EXETER	251	WIND_SPEED	2016-09-07T12:00:00Z	1.82	3.7	4.94	5.9	7	
20	EXETER	251	WIND_SPEED	2016-09-07T18:00:00Z	1.97	3.86	6.1	6.79	8.07	
21	EXETER	251	WIND_SPEED	2016-09-08T00:00:00Z	1.08	4.03	5.33	5.99	7.77	
22	EXETER	251	WIND_SPEED	2016-09-08T06:00:00Z	1.4	4.45	5.18	6.22	8.86	
23	EXETER	251	WIND_SPEED	2016-09-08T12:00:00Z	2.3	5.53	7.02	8.46	11.99	
24	EXETER	251	WIND_SPEED	2016-09-08T18:00:00Z	1.68	5.11	5.95	6.96	10.97	
25	EXETER	251	WIND_SPEED	2016-09-09T00:00:00Z	0.85	4.51	6.03	7.44	10.05	
26	EXETER	251	WIND_SPEED	2016-09-09T06:00:00Z	1.49	4.53	6	6.92	9.42	
27	EXETER	251	WIND_SPEED	2016-09-09T12:00:00Z	4.83	6.54	7.86	9.08	10.87	
28	EXETER	251	WIND_SPEED	2016-09-09T18:00:00Z	3.21	5.32	6.3	7.53	12.33	
29	EXETER	251	WIND_SPEED	2016-09-10T00:00:00Z	1.83	4.66	6.43	7.76	11.53	
30	EXETER	251	WIND_SPEED	2016-09-10T06:00:00Z	0.6	4.04	6.05	8.51	12.45	
31	EXETER	251	WIND_SPEED	2016-09-10T12:00:00Z	1.61	5.2	6.7	9.01	14.26	
32	EXETER	251	WIND_SPEED	2016-09-10T18:00:00Z	0.86	3.76	4.93	6.86	8.02	
33	EXETER	251	WIND_SPEED	2016-09-11T00:00:00Z	0.52	2.07	3.6	5.21	8.63	
34	EXETER	251	WIND_SPEED	2016-09-11T06:00:00Z	0.55	2.03	3.12	3.8	8.25	
35	EXETER	251	WIND_SPEED	2016-09-11T12:00:00Z	0.84	3.36	5.03	5.88	9.69	
36	EXETER	251	WIND_SPEED	2016-09-11T18:00:00Z	0.63	2.93	4.23	5.57	9.07	

The file is ordered by site name followed by weather parameter, date/time, and then the percentiles. Note that lightning is presented with a probability rather than percentiles so has only the "most likely" column completed.

The second column "sspa_id" is an internal Met Office code to uniquely identify a site, and may be useful in the event that a question arises that requires a dialogue with the Met Office.

Setting the Language

If your account has been set up to access different languages, then each user can select their preferred language from the "My Account" button:
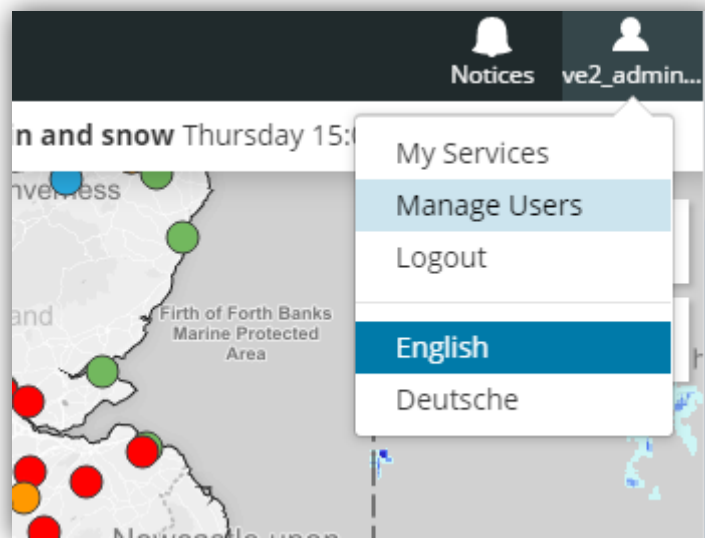
In this case the user has selected English, but also has the option of German.

Switching to a different language is specific to the user login and the device – no other user is impacted, and if the user has more than one device, they will need to select their preferred language on each device.

Weather Warnings

The Met Office issues warnings for severe weather events that present a potential risk to personal welfare and property in the form of the National Severe Weather Warnings Service (NSWWS). A link to the national web site is provided in the VisualEyes menu, and the icon colour reflects current worst warning state for weather in the UK.

Settings

Admin/SuperUsers will also have access to the Settings menu where access is provided to:

- Threshold management (site list selection, parameters, disable/enable, modify sites in bulk);
- Regions Management (Usage, set up, modify, delete, "no region");
- Alert Period (12, 24, 36 – alerts and control room, always 36 on charts);

Threshold Management:

A key feature of VisualEyes is the ability to set thresholds and then issue alerts when forecast weather breaches those thresholds. To maintain thresholds, first access the

threshold management and select the sites that you wish to maintain. Only after at least one site has been selected, will the thresholds become editable.

Selection of sites can be by selecting individual sites, regions or "All".

When a site is selected, the current thresholds will be collected from the core database and displayed. Note that if multiple sites are selected, then they may have different values stored for thresholds, and if this is the case, then the value will be displayed as "Multiple Values":
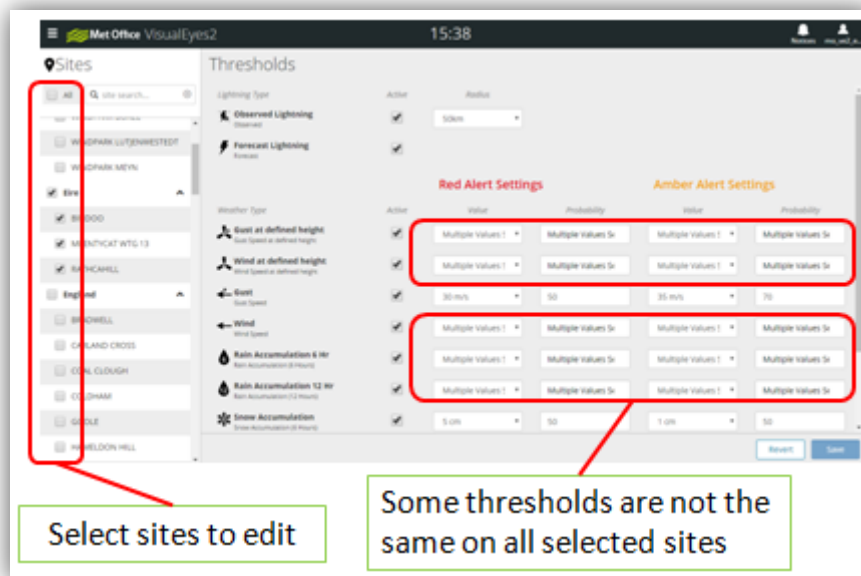
When setting thresholds, there will be one or two parameters:

- o Observed Lightning: In the case of observed lightning, you can set only the radius from the site. 50Km is widely accepted as the optimum radius for assets that are very sensitive to, or likely to attract lightning because this reflect the lateral distance that lightning may travel before striking ground.
- o Forecast Lightning: The radius for the proximity of forecast lightning to a site is set at 50km as standard, and is not user definable. The threshold probability is set as 10%, and is also not user definable. However, the forecast also absorbs the NowCast lightning.

  NowCast lightning is a blend of the forecast and a forward projection of the current observed weather. It produces a deterministic forecast (i.e. without a probability value), and is the source of most forecast lightning over the next 6 hours.

- o All other thresholds have a weather value (e.g. Wind = 25 m/s) and a probability value (e.g. 40%). When setting thresholds you should initially set the weather value to the limit that represents a significant level; for example, you may have a safe working at height wind speed of 15 m/s, so that is the value you should use for the

red threshold. The probability should reflect your appetite for risk – if you are very sensitive the weather type, then this would be a lower value whereas if you are less sensitive you would set it high – see the not on ensemble forecasts and probability below.

o Once you have set a threshold it is possible that you will find it has been set either too sensitive, resulting in false alarms, or rather insensitive resulting in warnings being raised too late. Over time (depending on the weather) you will be able to tune the settings to give the best results. During this period, you should exercise caution on site.

Note: The alerts are recalculated each time the forecast is generated; this happens approximately every six hours, and including time for any processing, this means that it may take up to seven hours to be reflected on your alerts and charts. When they are reflected, they will be synchronised across all user accounts in your organisation.

Ensemble Forecasts and Probability

When setting the risk probability it is helpful to understand how the forecast is derived. The Met Office calculates multiple forecasts (called ensembles – it is an ensemble of multiple weather parameters); each ensemble uses slightly different starting conditions, and as an acknowledgement that we do not know the starting conditions perfectly in all locations. As a result, each ensemble forecast will have a slightly different outcome.

When you state that you want to set a threshold at Wind Speed 15 m/s with a probability of 50%, you are effectively saying that you want at least 50% of the ensemble forecasts to breach 15 m/s before recording a threshold breach.

Note that you could set an amber threshold and a red threshold at the same value, but apply a higher probability to the red threshold. This is a valid setting, but potentially confusing. It is advisable to set the threshold value at a level that makes sense, and only use the probability to represent your risk appetite. Often this will mean having the different values with the same probability.

Regions Management

Regions management is only available to the SuperUser and Admin user types

Initially, you will have no regions defined for your organisation. The use of the term "Region" reflects user feedback for the need to consider assets according to geographic area. However, they could equally be used to differentiate asset types, managers, or any other grouping.

Currently the system only allows a site to be associated with a single region.

Define a region

To Define a region: Access the regions management, select the $\boxed{+ \text{New}}$ button, enter a region name in the pop-up window, and click $\boxed{\text{Create}}$. The region is now created, but has no associated sites.

Manage Sites in Regions

To add or remove sites from a region: select the region (if you have just created it, then it is already selected, and select any site that you want to add. As you add them they will be highlighted. A site can be removed by deselecting it. Once you are finished, click on $\boxed{\text{Save}}$ or $\boxed{\text{Revert}}$ to cancel the operation.

Rename a Region

To rename a region click on the $\boxed{\text{Rename}}$ button, enter the new name and then $\boxed{\text{Rename}}$ to save the new name.

Alert Period

Alert period changes are only available to the SuperUser and Admin user types

Threshold breached are calculated out to a 36 hour period. However, you can change the alert period to only highlight alerts and send out notifications with a 12, 24 or the full 36 hour advance warning period.

Alert delivery management (SMS texts and e-mail)

Every user needs to manage their alerts.

VisualEyes will send out e-mail and SMS text alerts to users on a periodic basis. When ther are active alerts / threshold breaches at one or more of your selected sites. Messages are sent at 06.00, 12.00, and 18.00 each day with an update of the alert / threshold breach status.

The email messages offer more detail than the SMS, so if you wish to minimise the number of messages that we send you, the e-mail may be more informative, but both types of message have a link to open VisualEyes where you can see the detail.

You need to supply contact details and select which sites you need to receive notifications for.
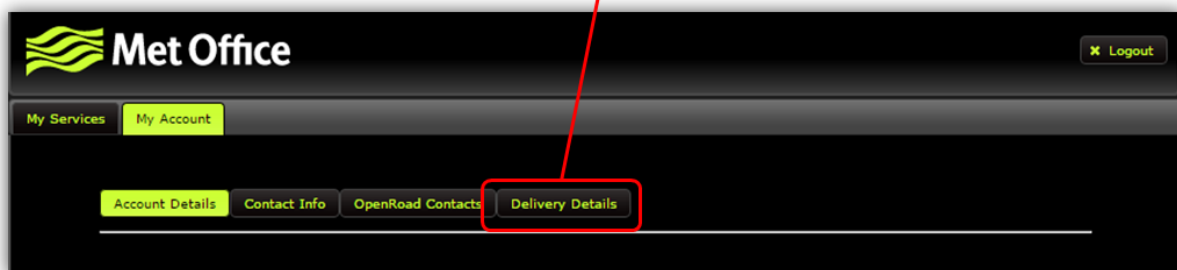
Updating your Delivery Instructions

The management of this information is performed in the WAVE interface, which is accessed from VisualEyes via the MyServices link, or after the initial login before selecting the VisualEyes product:
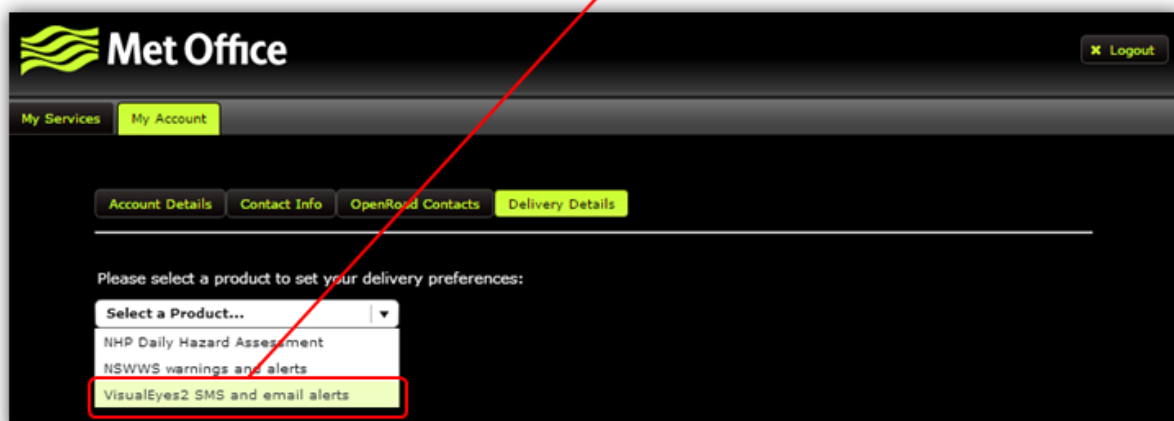

Select "My Account"
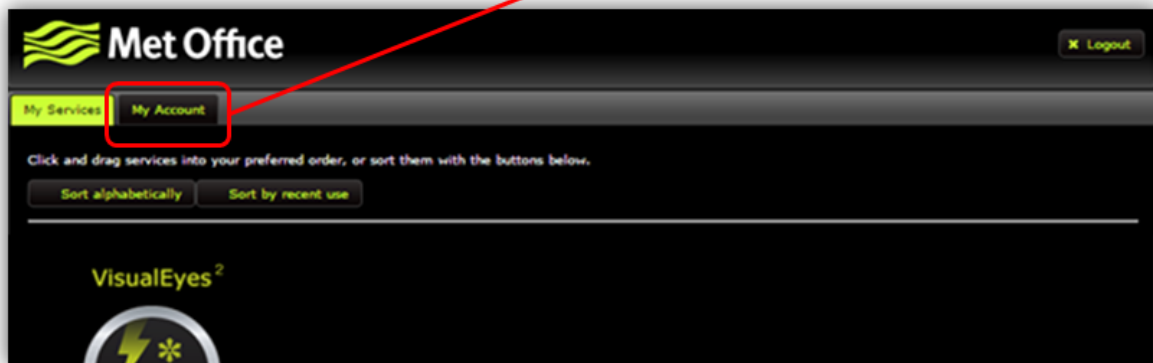
Select "Delivery Details"

Select "VisualEyes" from the product list

Check the "Receive Alerts" box to activate the messaging service. By default it will show the email address attached to your user name, but you can change it to a different address. You can also elect to receive an SMS message as well, or instead of an e-mail message.

Once you have added your alert contact information, select the region and sites of interest, and move them into your "Selected" list. If regions have not been defined, you will still need to select the "No Region" site list from the drop down first.

Finally, save your changes.

You can update your site list or contact details as often as necessary.

Example E-Mail Message:

```
Met Office
Tel: 0370 900 0100
http://www.metoffice.gov.uk
```

```
VisualEyes2 Site Specific Weather Service Threshold Breach Summary Issued at: 19:20
(BST) on 31 March 2016

DUBLIN:
Hub Height Gust          Amber      From: 01:00 (BST)
Hub Height Gust          Red        From: 07:00 (BST)
Hub Height Wind Speed    Amber      From: 04:00 (BST)


GLASGOW:
Hub Height Gust          Amber      From: 04:00 (BST)


EXETER:
Wind Speed               Amber      From: 07:00 (BST)
Temperature (Min)        Amber      From: 01:00 (BST)
Visibility               Amber      From: 01:00 (BST)


To view all VisualEyes2 alerts, log into the service at:
http://www.metoffice.gov.uk/premium/visualeyes2

To amend your SMS text and email preferences: log into the VisualEyes2 service and
access My Account to manage your mobile contact number, email address, and manage
which sites you are subscribed to.  Alternatively, contact your administrator for
support and advice.
```

Setting Up Additional Users

If you are the SuperUser for your organisation, then you have the ability to create new users. Once you have created a user you can manage the user details, and their level of access (Manager or Standard)

Note that there is no limit to the number of users that you create, but there is no facility to delete users. Any username that is no longer required should be Blocked.

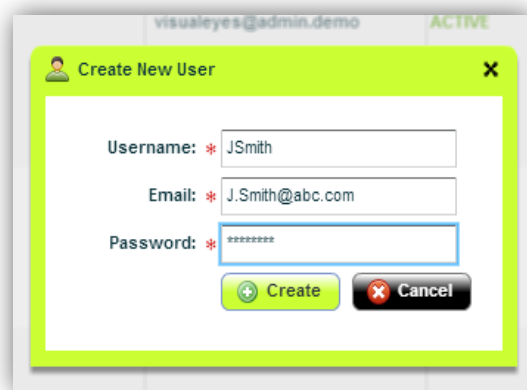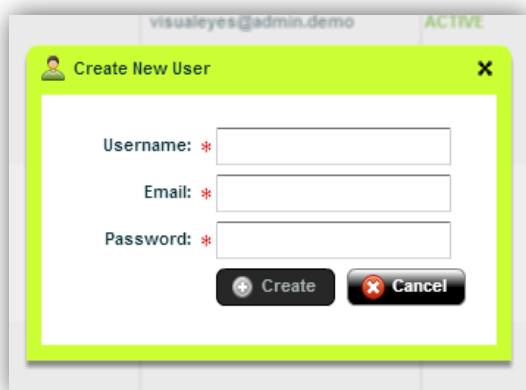## Process to Create and Manage Users

Access the Manage Users option from the drop down menu under the "My Account" button. You may be asked to resubmit your username and password:
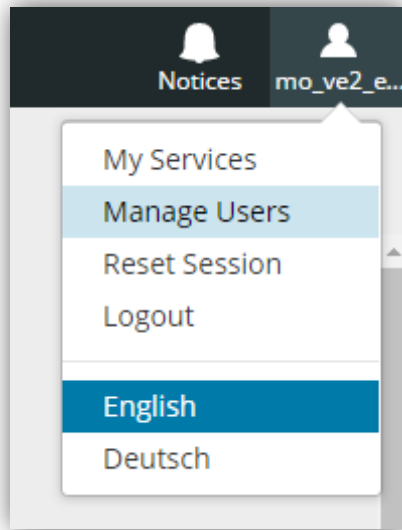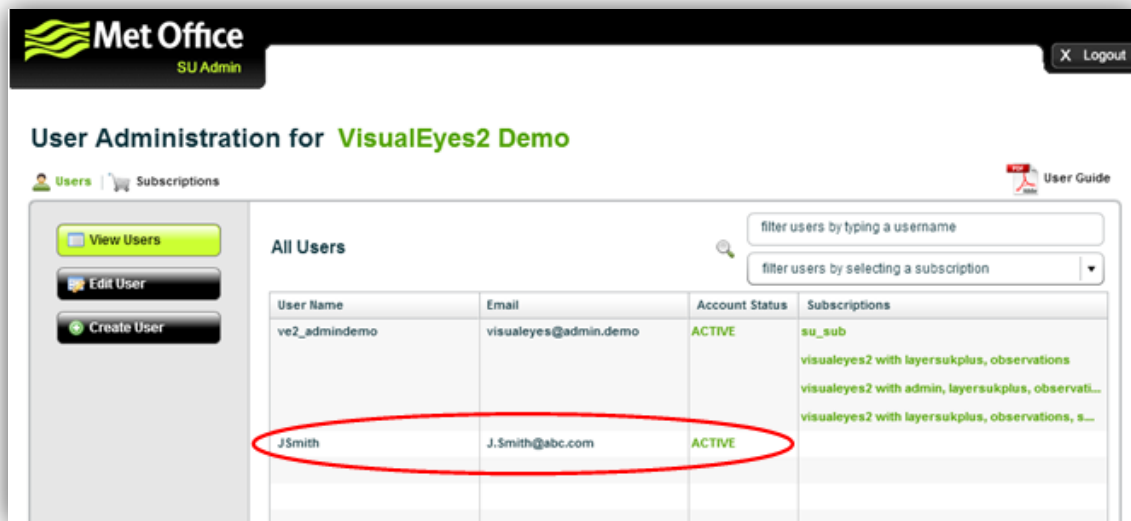
Initially the only user will be the SuperUser:
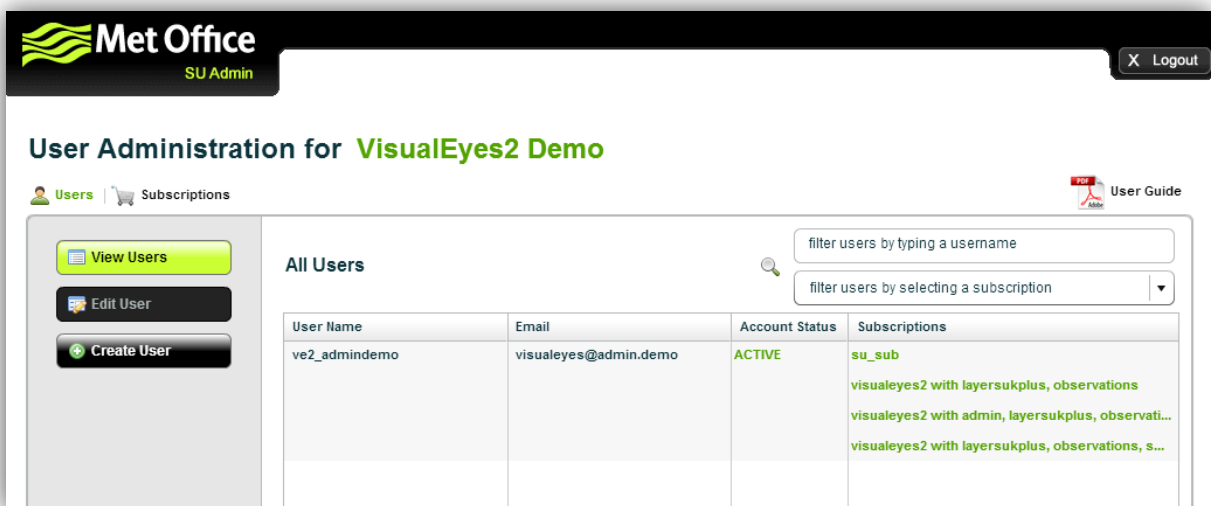
Select the ⌈Create User⌉ option, complete the credentials, and click ⌈Create⌉:

Return to the View User screen, and the new user will now be available At the stage all you have done is create the user:
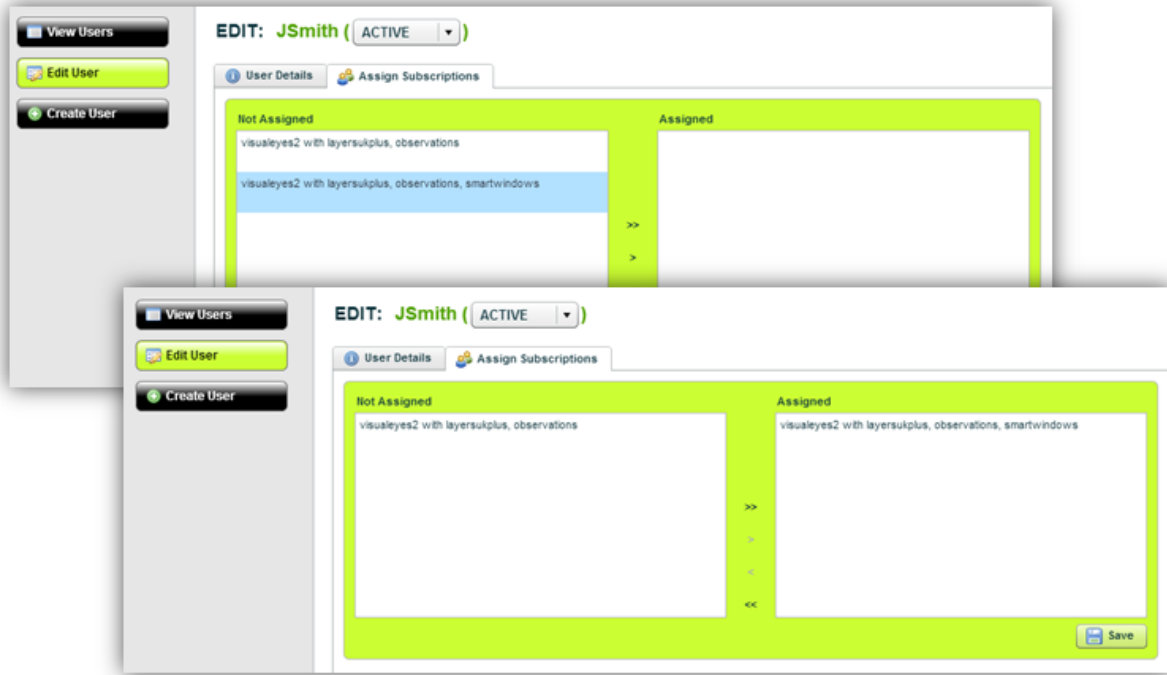

The next stage will be to define the level of access subscription that you want to permit. Click on Edit User and select Assign Subscriptions :
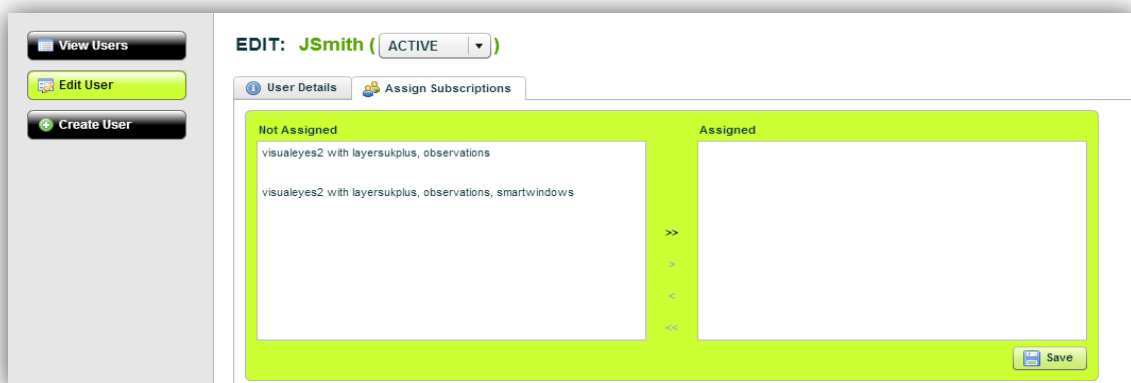
There are two subscription levels available, one of which included Smart Windows, and one that does not. All users will have access to use Smart Windows, but this subscription level will grant the user the ability to create, edit, and delete Smart Windows:

Select the appropriate subscription level and click the arrow to move it across to the "Assigned" box:

Returning to the View Users screen, the user set-up is now complete:

Removing a User

It is not possible for you to delete a user from the service, but you can Block them, which has the same effect.

Return to the Edit User option, and change the status from Active to Blocked from the drop down menu:

The user will now appear in the use view as "Blocked", and will no longer be able to access the account: