

Why do you need VisualEyes™?

The weather can create health and safety risks for site personnel during both the construction and operational phases of an energy asset, at any time of the year.

For example, working outdoors in open spaces, particularly on, in, or near tall metal structures such as wind turbines and cranes, increases exposure to the risk of a lightning strike.

Lifting operations, especially those at high altitude sites can be affected by high winds and gust strength.

Access to sites can be restricted by many different types of weather. Lying snow can prevent staff entering or leaving a site, fog and low cloud can limit visibility and ice and flooding can prevent the use of both public and site roads.

Equipment and infrastructure such as turbine blades or power lines can be damaged by ice, plus the subsequent thaw and fall can pose a risk to site personnel and the public.

Construction sites are particularly vulnerable to heavy and prolonged rainfall. It can potentially damage unfinished roads, drains and open trenches. Heavy rain can also lead to a heightened risk of landslips on any site.

Lastly, it is important not to under estimate the effects of exposure to both hot and cold weather, with the risk of hypothermia and frostbite or hyperthermia, sunstroke and sunburn ever present.

VisualEyes™ can help you to manage and mitigate all these risks.

Case study

Whitelee Wind Farm, Scottish Power Renewables

The Whitelee Wind Farm Control Centre monitors over 20 sites owned by Scottish Power Renewables (SPR). VisualEyes™ has been at the heart of SPR's operations since 2009 for 24 hours a day, 365 days a year, helping SPR make on-the-ground decisions to increase efficiency and reduce safety risks to staff.

Controllers are alerted when any weather element breaches set thresholds. With this detailed information, they can make informed decisions about maintenance and operation schedules.

VisualEyes™ has reduced the negative impact that weather can have on SPR's wind farm operations. Controllers can monitor changing situations and review operations affected by the weather such as gearbox and blade changes, access to nacelles and the management of high winds and lightning.

Key benefits

By using site-specific weather data underpinned by our world-leading science, VisualEyes™ can deliver the following benefits:

Manage health and safety risks

- Protect site personnel during construction, operations and maintenance and avoid litigation.
- Have a detailed understanding of the forecast situation so that you can alert your workforce of potentially hazardous weather.
- Staff working remotely can monitor site weather conditions themselves, increasing their own awareness of weather related safety risks.

Reduce maintenance costs

- Minimise asset downtime through effective planning of:
 - Workforce – know when and where to send maintenance staff.
 - Plant and equipment – know when best to bring expensive cranes and other hire equipment on site.
 - Site access – know if safe travel is likely to be compromised.

Increase revenue

- Use the VisualEyes™ planning charts to quickly identify the optimum times for power generation.

Stay fully informed – wherever you are

Access critical site-specific weather conditions wherever you are with:

- email and SMS alerts – SMS warnings will be delivered even in remote areas with little or no data access;
- device responsive mobile access – compatible with desktops, smartphones and tablets, so it is perfect to use while in the control room or on site.

“Using Met Office's VisualEyes™ service gives us the control to monitor exact conditions and make real-time, on-the-ground decisions which have helped to increase our efficiency, and most importantly reduce safety risks to our staff and contractors.”

Mark Gailey, SPR Control Centre Manager

Features

VisualEyes™ enables you to choose from two distinct views to suit your needs:

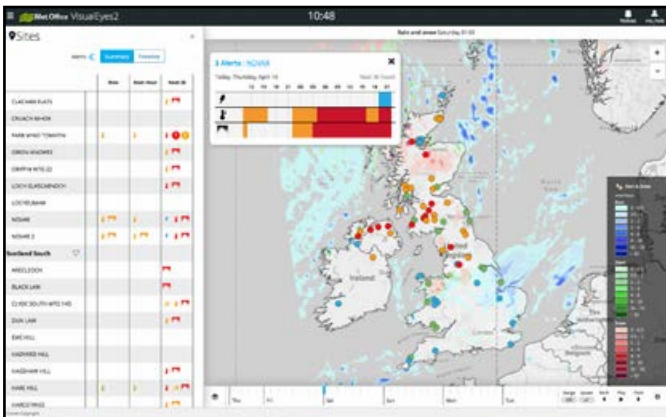
1. Control room view

Use this view to monitor weather conditions across multiple sites. It includes a map viewer and collapsible alert panel:

Map viewer

This contains site pins and weather layers so you can:

- choose from up to 23 different weather layers, some containing a combination of elements e.g. rain and snow, wind and precipitation;
- clearly visualise the forecasts with an interactive timeline and zoom feature;
- view all time segments in sequence (both observed and forecast) for each weather layer;
- quickly identify forecast alerts with colour-coded site markers;
- access an overview of forecast alerts for each site.



Collapsible alert panel

This provides an overview of forecast alerts for each site so you can easily see:

- a summary view of alerts for up to 36 hours;
- a timeline view of alerts for up to 36 hours;
- observed lightning alerts;
- icing alerts (this is a new and optional innovation currently in testing while we trial the technology).



2. Weather chart view

Use this view for forward planning of maintenance activities. It includes:

- ‘box and whisker’ graphs – these show the spread of forecast probabilities helping the user to understand forecast confidence for improved risk management;
- 1, 7 and 14 days views;
- detailed information on weather elements including probabilistic forecast data, threshold breach levels and current alerts;
- an option to export chart view as a PDF.

Featuring: Smart Windows



- Smart Windows is a flexible tool for identifying both favourable and unfavourable weather combinations.
- Up to 10 different weather types can be combined.
- Create many different SmartWindows and share with colleagues.

Weather types covered:

- Observed and forecast lightning.
- Rain accumulation (6 hour and 12 hour).
- Snow accumulation.
- Temperature (low and high temp warnings).
- Visibility.
- Wind.
- Wind at hub height.
- Wind gust.
- Wind gust at hub height.

Why choose us?

- The Weather Desk is available 365 days a year, 24/7 and is our one-stop-shop for all your operational and technical needs. We are here to provide service support when you need it most, so that you are fully operational and equipped with the latest weather information to inform your decision-making.
- Our customer service team can provide direct access to our dedicated forecasters for the energy sector. They understand your priorities and operating thresholds and are familiar with your terminology.
- We support a highly resilient infrastructure offering over 99% service availability. Our reliable and secure information technology routinely carries classified information to a wide range of customer groups including aviation, defence and emergency responders.
- Our internationally recognised science programme underpins the weather and climate services we provide. This focuses on improving our prediction systems across all timescales and regions of the globe.
- We incorporate complex science into products, services and scientific consultancy. We then translate this into a useful format to help customers solve problems and make the right decisions.
- We invest in research and development and take the time to understand our customer's unique requirements, before using this knowledge to inform our core research priorities. As a result, we are consistently ranked as one of the top two operational services in the world by the World Meteorological Organization.



Contact us now to find out more or to arrange a demonstration of VisualEyes™.

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