



Tailor-made hazard forecasts for Wessex Water

Challenge

Wessex Water serves an area in the south west of England covering 10,000 square kilometres supplying 1.3 million people with around 284 million litres of water a day, and treating 475 million litres of sewage from 2.7 million customers a day. For a company covering such a large area, the weather can have significant and varied impacts on day to day operations.

Low temperatures and particularly swings in temperature can cause supply pipe leakages and pipe bursts which can lead to flooding and major impacts on customers. Lightning can cause power outages at pumping and treatment centres. This not only has a significant impact on customers but also requires operational staff to get the site back up and running. Extreme weather like heavy or prolonged snow fall can have further impacts by hindering staff access to remote sites.

To minimise disruptions to customers and protect the health and safety of staff, it is essential for Wessex Water to have access to up-to-date and accurate weather forecasts tailored to their needs.

“Ongoing liaison with the Met Office staff to enhance and develop our future forecasting requirements this has become a beneficial relationship and an opportunity to learn more about weather.”

Patricia Plummer
Management Systems Manager

Solution

Following detailed consultation with many areas of Wessex Water’s operations, we designed a tailored hazard forecast. The five-day forecast covers a variety of weather parameters, including maximum rainfall rate, rainfall accumulation, temperature, snow, lightning risk, and wind. This information is scaled to town level, which makes it possible to pinpoint areas of concern enabling the appropriate resources to work in the required areas, rather than divisionally, giving employees confidence in the report. The forecast is delivered twice a week in summer and four times a week during winter.

Significantly, tailored thresholds have been set which means a RAG (Red-Amber-Green) hazard status is shown on the forecast, and triggers action within Wessex Water. For example, 4x4 vehicles are utilised and remote access sites are proactively cleared and gritted when significant snow is forecast.

Adding further value to the forecast, highly skilled Met Office meteorologists provide commentary and confidence thresholds. In addition, meteorologists are available on the phone to discuss the forecast and give expert advice on the potential impacts of the weather.

Benefits

Combining tailored forecasts with additional meteorological knowledge gained by Wessex Water at a Met Office ‘Introduction to meteorology for the water industry’ training course has enabled Wessex Water personnel to understand the weather they can expect and the impact it may have on their business. This ensures business continuity during periods of severe weather by helping Wessex Water manage operations, maintenance and maintain supply to customers. The tailored forecasts also enable Wessex Water to take pro-active measures to safeguard their business.

“During the storms and extreme rainfall of Christmas and New Year 2013, the use of the forecasting solution worked in-conjunction with proactive and reactive work management and resource planning across the business. This has had a positive impact on the internal and external customer service with financial savings.”

Patricia Plummer
Management Systems Manager

Site	NSWWS or FGS Warning	Rainfall (mm)		Temperature (°C)				Snow (cm)	Lightning Risk (%)	Wind (Kt)	
		Rate (hr)	Accumulation (24hr)	MAX	MIN	Temperature Swing From -x°C to +x°C in any 12 hour period in 24 hours	Road Surface Temperature			Mean Speed	Gust
Location A	NSWWS - Amber	6.8	10	15.5	8.6		6.3	0	13	12.4	30.4
Location B	NSWWS - Amber	12	22	16	8.2		6.2	0	13	12.7	34.2
Location C	NSWWS - Amber	10.7	15	15.8	7.9		5.6	0	13	12.1	35.1
Location D	NSWWS - Amber	9.7	18	15.9	8.2		5.7	0	14	12.3	34.1
Location E	NSWWS - Amber	2.2	3	15.8	7.9		6.6	0	11	12.7	32.9
Location F	NSWWS - Amber	4.5	9	15.9	8.4		6.4	0	56	12.1	26.6
Hazard Commentary	A windy day, but the strongest, locally damaging, winds will ease quickly this morning. The heaviest rain easing too, however scattered heavy showers soon developing which may be thundery.										

Simplified product example showing R-A-G rating and tailored thresholds for different weather parameters.

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