Radar data can provide you with a current picture of rainfall in your area. But, when there’s heavy rain and surface water flooding, it’s good to stay one step ahead by knowing where will be affected next.

By taking advantage of our latest developments in nowcasting, you can not only get detailed information about the current rainfall, you can also have a forecast out to six hours.

Nowcasting is a technique used for short-range forecasting. First, it maps the current weather and then estimates its speed and direction of movement, providing a forecast for a short period ahead.
How it works

The Met Office uses nowcasting for many weather variables, such as rain, wind, temperature, snow and fog.

As this forecasting technique can be applied quickly, it is possible to update the forecasts frequently.

Our Short Term Ensemble Prediction System (STEPS) data is available across the UK at a 2 km resolution. As it is updated every 15 minutes, we’re able to regularly inform waste water operators about the likely path and progress of heavy rainfall.

Benefits of nowcasting

The most widespread and advanced applications of nowcasting are for rainfall, and severe weather such as hail and lightning. With nowcasting you can:

- Manage surface water flood events with confidence.
- Analyse expected impacts of rainfall on your waste water network.
- Assess your capability for real-time network modelling and management.
- Prepare for heavy rain and surface water flooding with a detailed view of rainfall movement for the next few hours.

Short Term Ensemble Prediction System (STEPS)

STEPS is a state-of-the-art rainfall nowcasting system developed in collaboration with the Australian Bureau of Meteorology.

With STEPS, the rainfall distribution is separated into different sizes, so heavy rainfall (which is more predictable) can be nowcast further ahead, while smaller events are nowcast over shorter timescales.

Beyond this predictability limit, information is used from the Met Office’s Numerical Weather Prediction model for larger rainfall features. The smaller features are then filled in using a random statistical method.

‘Ensemble’ refers to the fact that many different forecasts are produced, with rainfall areas moving at slightly different speeds, and small rainfall features represented by slightly different random statistics.

Using this approach enables a realistic range of uncertainty to be estimated for flood forecasting.

To discuss how nowcasting can help you, call us on +44 (0)1392 885087 or email water@metoffice.gov.uk