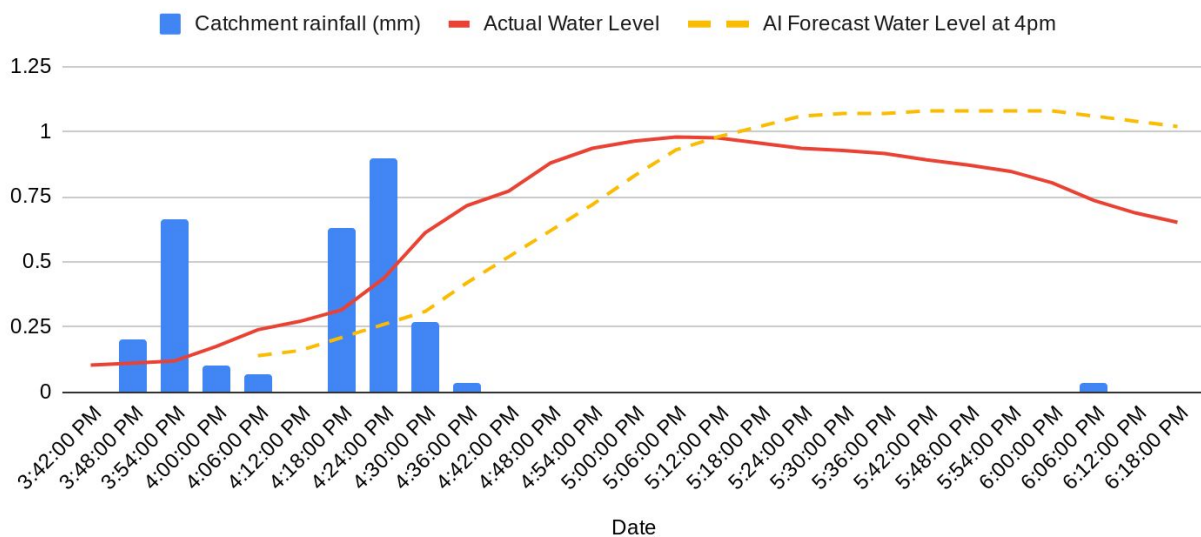


AI Flood Forecasting Case Study - Elster Ck

Two key requirements for councils are that flood warning systems have a high degree of accuracy (do not send false alarms that damage community trust), and can provide warnings with sufficient time - given the short time of concentration involved with council catchments.

In order to demonstrate the accuracy and warning time of the system, below is an event from 1 September 2019 at Elster Ck in Melbourne.

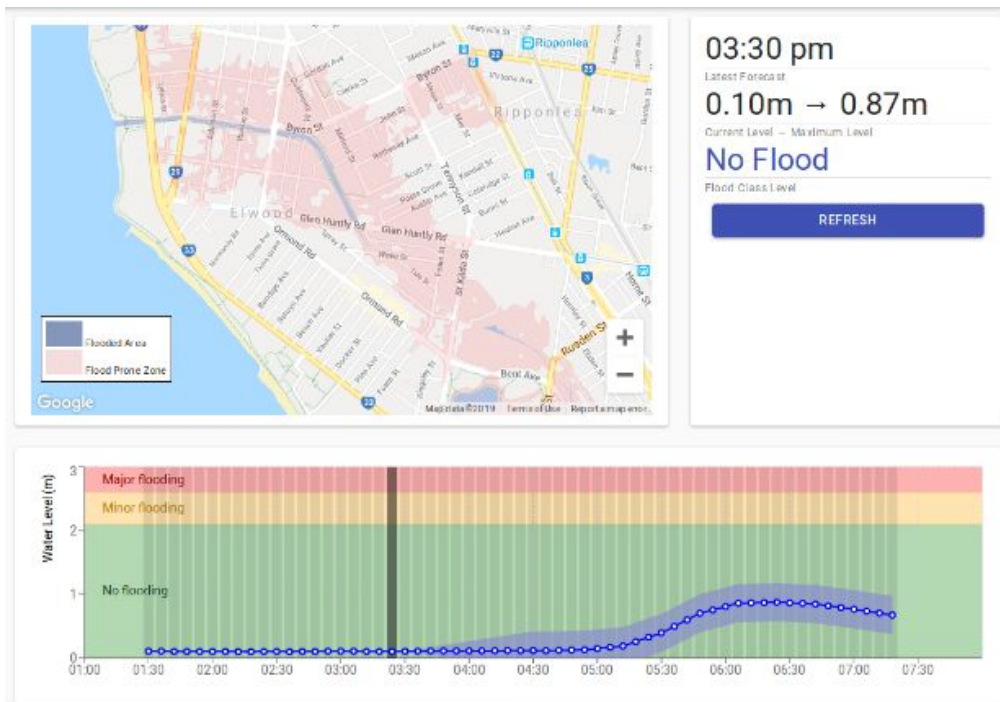
1 September 2019 - Elster Ck Event



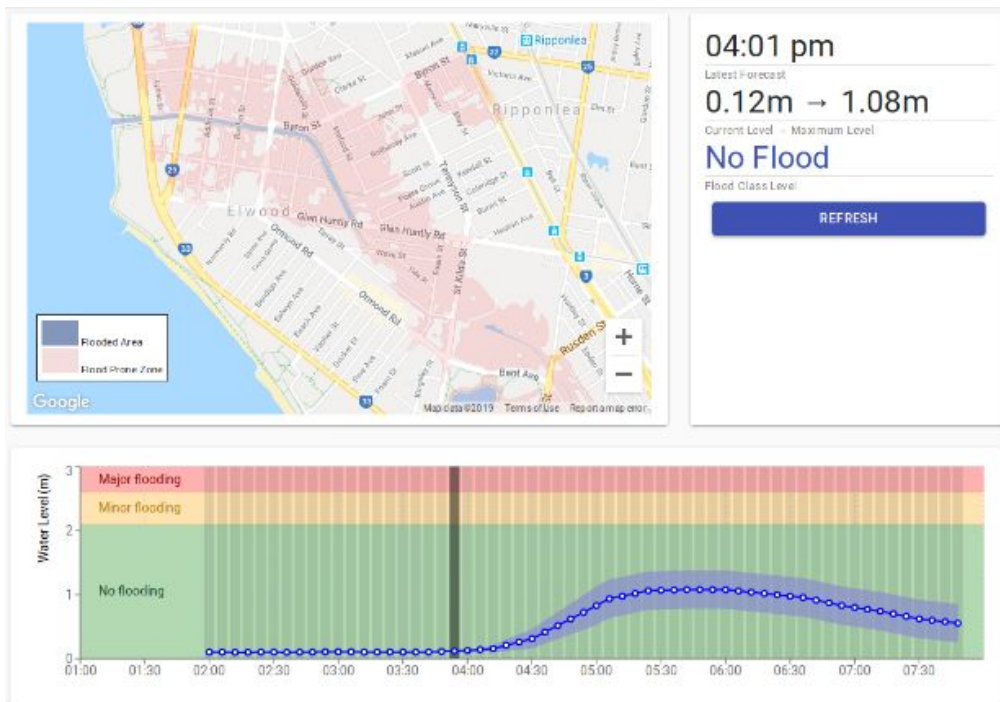
The event shows the fast response at this site - peak water level occurs only 40 minutes after peak rainfall.

The associated AI predictions (as seen in the dashboard) for this event are shown on the following pages.

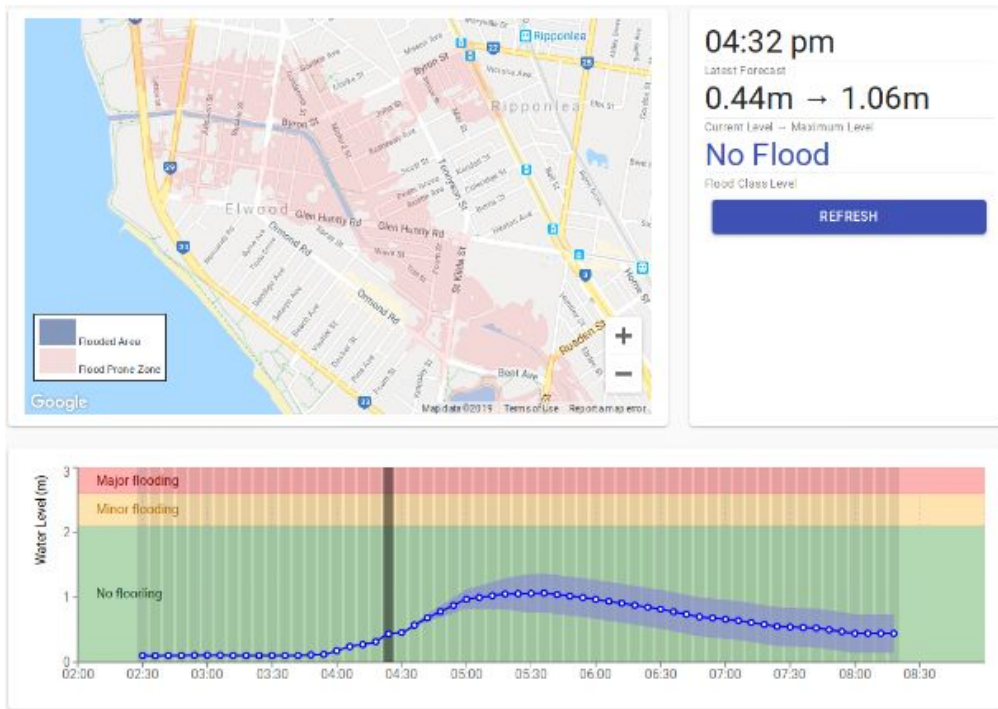
3:30pm: before any rainfall, a forecast of an upcoming event and associated flood level was produced.



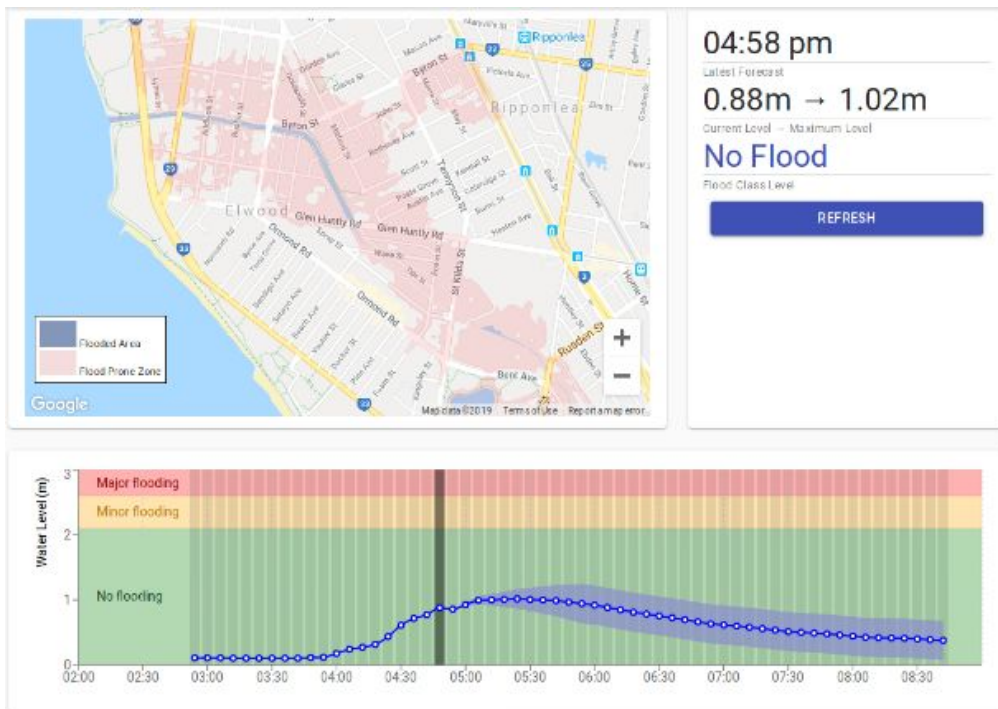
4:00pm: a refined forecast is produced indicating increased flood level peaking at 5:30pm



4:30pm : the forecast is refined down slightly, peaking between 5 and 5:30



5:00pm: the forecast is refined down again, still peaking between 5 and 5:30



Note that although 30 minute increments are shown, the system was producing updated forecasts every 5 minutes.

Ultimately, the peak level occurred at about 5:10pm and was slightly below the forecasted peak.

The above example, although not for a large flood, demonstrates how the model produces forecasts 1-2 hours in advance, even for catchments with a short time of concentration. It also demonstrates how, as a flood progresses, forecast accuracy is refined.