

Animation Explanation

We have shared four storm event simulations for Hiraal Bay. These show present day scenarios and scenarios including climate change.

The legend in the bottom right of the animation denotes the colours on the map and the associated depth of water during the storm event. The Hiraal Bay animations cover the area of Glandwr Road (Northern extent), Orme Road (South Western extent) and Beach Road East Car Park (eastern extent).

Walkaway scenario

The Walkaway scenario is defined as the cessation of all maintenance and flood risk management activities at Hiraal.

- The 2% (T50) (occurrence in any given year) present day (2020s) storm event, for a Walkaway scenario;
- The 2% (T50) (occurrence in any given year) + 2055 climate change storm event, for a Walkaway scenario;

The chance of a flood event can be described using a variety of terms. Floods are often defined according to their likelihood of occurring in any given year. A 1 in 50 year flood, refers to a flood level or peak that has a 2% chance of being equalled or exceeded in any year.

The 2055 climate change event relates to an increase in flood levels due to climate change from 2055 onwards, it is expected that the probabilities of these floods will also rise due to climate change.

Once the animation is played '*2% (T50) present day storm event*', during the Walkaway present day scenario the existing coastal frontage overtops and enters Hiraal via Beach Road East car park and crosses Beach Road travelling up Llys Emyrs.

During the climate change event '*2% (T50) + 2055 climate change storm event*' further areas overtop and flooding also occurs up Water Street, Orme Road, Seriol Road and Glandwr Road.

Do Something (proposed flood defences in place)

A proposed new flood defence consists of flood walls along the coastal frontage and flood gates at Glandwr Road and Beach Road West Car Park. The average height of the proposed defences is 1.4m along the promenade.

- The Do Something 2% (T50) (occurrence in any given year) present day (2020s) storm event, for a scenario with a flood defence with a 6.66mAOD crest level;
- The Do Something 2% (T50) (occurrence in any given year) + 2055 climate change storm event, for a scenario with a flood defence with a 6.66mAOD crest level;

Once the animation is played '*Do Something 2% (T50) present day storm event*', in the present day scenario, it is observed that the flood defences provide a significant protection to the properties in Hiraal; minor overtopping can be seen and results in negligible flood depths restricted along the coastal frontage.

During the climate change event '*Do Something 2% (T50) + 2055 climate change storm event*' further areas overtop and flood extents can be seen on Water Street and Llys Emyrs, these water levels are negligible in this storm event and would not flood any properties.