



## A comparison of the 2009 and 2015-16 flooding in Ireland and its historical context

Kieran Hickey

Ireland (kieran.hickey@ucc.ie)

Given its western extremity and relatively high and generally year round rainfall Ireland has a long history of river flooding with the Shannon catchment being the most problematic. In addition the morphology of Ireland inhibits good drainage with most of the centre of the island being very low lying and most of the mountain ranges along the coast, thus being described as saucer shaped. This paper compares and contrast the flooding of 2009 and 2015-16 both considered to be 1 in 100 year floods (Hickey 2010).

Both events are associated with record monthly rainfalls received in November 2009 and December 2015 e.g. Cork Airport recorded 402.2mm of rain in December 2015 which represents 302% of its long term average and was its wettest December on record since the station opened in 1962.

Both floods occurred after long periods of above average rainfall which meant that there was little additional storage capacity in the lakes, channels and soil. Both led to record water heights being recorded on some Irish rivers especially on the Shannon catchment.

The human factor cannot be ignored and the encroachment onto floodplains of extensive building during the Celtic Tiger era has significantly exacerbated the problem in terms of impact. This is coupled with persistent underinvestment in flood defences and a planning and tendering process for new flood defences which can be easily stopped have also contributed to the scale of the problem.

This paper will assess the role of climate change in both these events and will also contextualise them with the historic flood record. This will give insight into Ireland's rising future river flood vulnerability and how this scale of flooding is likely to occur more frequently into the future.

### Reference

Hickey K.R. (2010) *Deluge: Ireland's weather disasters 2009-2010*, Open Air, Four Courts Press, Dublin.