

Gohebiaeth am lifogydd difrifol Tachwedd 2012

DB (Duncan Brown), IDW (Ifor Dylan Williams) a HHJ (Huw Holland Jones), arbenigwr tywydd a hinsawdd Prosiect Llên Natur

>> HHJ 26 Tachwedd 2012

There was a surprising statistic on BBC news last night to the effect that November's rainfall so far has been rather UN-exceptional as regards rainfall AMOUNTS. And yet perceptions otherwise are undoubtedly, of course, of exceptional EFFECTS and IMPACTS (I don't need to enumerate why!). So it would seem that a monthly rainfall measure is not the best parameter to explain what everyone has just been through. If not, what is? Cumulative rainfall over the year saturating the ground? Higher volumes of recent rain over shorter periods? Overfilling of rivers over a longer period? Higher tides (sea-level rise) in some cases? ... or what? It is difficult to believe that these successive floods are anything but abnormal, and you yourself pointed to unprecedented scour points (eg Grasbil) which testify to the abnormal nature of the event in this area. Or, to put the question another way... what IS a weather event. Is the higher rainfall over this current year Britain wide "the event" in meteorological terms, rather than the recent flooding, agonising though that might have been?

DB (cc. IDW)

IDW >>>HHJ (cc. DB) 26 Tachwedd 2012

Further to Duncan's message, here's my experience. Where I was brought up, we had the worst flood in a 60 year period. Beside the house is a small stream. Last Thursday, I measured 36.6mm of rain. I have seen [smaller] floods with much higher rainfall see below, the effects of flooding generally around Llanfaglan, Dinas and Groeslon last week were similar to the flooding of the 12 October 2005.

October 2000 254 mm

November 2000 258.4mm

21 Oct 2004 68mm wet september and 131 mm of rain already that month

12 October 2005 74.9mm of rain recorded in area normal flooding (This was in the local papers)

18 October 2005 33.6 no floods!

4 October 2008 36.4. 14 october 2008 34.2 ,

25 October 2008 37.2 = wet month 230.5 total

The effect of rainfall and saturated ground is what has been playing around in my mind since this experience of last week, and I would be interested to find more about this.

The house is located at Groeslon, and the measurements are at Llanfaglan. The only difference locally at Groeslon is that a new house is being built and the owner was allowed to build a vertical wall along his side of the stream, without narrowing of the bed of the stream assured to us by the council. Before this the side had eroded back at some places about 2 metres in length making the stream was a couple of feet wider when in flood. Would a small amount of narrowing of a stream have had this effect?

IDW (cc. DB)

HHJ >> DB & IDW 27 Tachwedd 2012

First, to reply to DB's email:

As you know I'm quite interested in how people classify extreme weather events, how they often say that was the coldest, or the snowiest, or the wettest, hottest, driest etc. and how that compares with actual weather measurements & data. It also interests me as to which weather events become "infamous" & become part of the collective memory, and why some weather events, often as extreme, become forgotten.

For example, the summer of 1976 (which indeed by meteorological standards was truly exceptional) is now remembered by most people as the best ever British summer, and has become the yardstick by which we measure our best summers. But there have been other great summers, yet how many people can recall them, or give the dates of their occurrence...summer 1940, August 1947, summer 1959, August 1975, summers 1983 & 1984, 1989, 1990, 1995 (which was probably the last classic great British summer.. I'm waiting with bated breath for the next great summer..it will come, but when..)

Likewise the winter of 1962-3 has become the benchmark for measuring extreme winters. Yet 1947 was snowier, and the floods that followed when the thaw set in around 10th - 17th March 1947 were more widespread & severe than anything experienced in recent years. We remember the "winter of discontent" of Jan - Feb 1979 because of the strikes, but there have been worst winters, notably the first three winters of WW II (1940, 41 & 42). And already the snows & severe cold of Dec 2010 are receding from people's memories, yet in N Ireland & parts of W Britain it was the coldest December in instrumental records, (& in N Ireland it was the coldest of ANY month ever recorded).

And who will ever forget the Great Storm of the night of 15-16 Oct, 1987 (yet the Burn's Day Storm of 25-26 Jan 1990 was equally as severe, covered a much wider area & killed more people). We remember the 1987 "hurricane" because of the unfortunate Michael Fish.

And therein probably lies the main reason why some weather events are remembered & others forgotten. The remembered events can be recalled by association with another event, eg, winter of discontent - Michael Fish - Minister of Drought; Dennis Howell, appointed at end of Aug 1976 to deal with the drought crisis and the non stop rains of Sep & Oct 1976 began soon after his appointment!; and the TV pictures of frozen seas & ice floes around the British coast in 1963.

Despite the poor summer of 2012, I'm sure many people will look back & remember the fine weather that blessed the Olympics & Paralympics, & recall it as a "summer not that bad after all!" And you, Duncan, have often remarked to me that Summer 2012 wasn't as bad as people make out...yet the actual instrumental records point to it being one of our worst summers. Taken over the 3 months June to August (the meteorological summer) it was the wettest, the dullest & one of the coldest in my weather records (which go back to 1976 in this country).

Which brings me to Ifor's email.

Yes, it's been wet in the past week, but we have experienced wetter weeks in the past, and as you point out, Oct, Nov & Dec 2000 was the wettest such spell (possibly the wettest 3 consecutive months ever recorded in Wales & England, here at Waunfawr the totals were Oct 335mm, Nov 368mm (so far Nov 2012 has delivered 213mm - see my graph in Llên Natur web page) Dec 299mm, yet no flooding in our area as bad as that of last Thursday (Nov 22).

My rainfall total for Nov 22 (0900 22nd - 0900 23rd) was 48.3mm, but on Oct 11th, 2005, my rain gauge collected 82.0mm (0900 11th - 0900 12th). There was serious flooding back then, particularly in Bangor, & the lane outside my home, Llys Awel, was about as flooded then as the recent flood of last Thursday.

So why was last Thursday's event so damaging, causing many local people to say they've never seen it's like in the area before. After all, November has only been slightly wetter than normal overall, and the year taken as a whole is only slightly wetter than normal so far (we wait to see what December will do).

*The big difference is that the rain event of Oct 11th 2005 followed a dry summer (230mm total Jun-Aug + 107mm Sept) whereas the rain event of Nov 22nd 2012 followed our wettest summer (521mm Jun-Aug * 200mm Sept + 184mm Oct). So by Nov 2012 the ground is super-saturated, & despite the relatively dry start to November, when the heavy rains of the past week came, the ground was too wet to absorb the water, so the rapid run-off was inevitable. It's not the whole story, however. I think the main cause of the "once in a generation", possibly even a life-time, flood event, was the INTENSITY & VOLUME of the rain in a very short time between about 1325 & 1340. It's really quite simple when you think about it, so much rain (& hail) fell in such a short time it flowed bodily down the fields & lanes (as one local eye-witness reported to me the fields were just one flood of water, no grass could be seen) & this on steeply sloping land...even if the ground hadn't already been saturated, such volumes of water couldn't be absorbed in time.. the rain was falling faster than the land could cope with it. I recorded 20.0mm between 1300 & 1400. I haven't got the amount between 1325 & 1340 but it must have been more than 10mm in that 15 minutes.*

To finish on a general note, why does flooding seem so more prevalent in recent years, despite average rainfall figures pointing to only a slight increase (say 5% in the last 15 years). Look at the TV pictures of the serious flooding in Llanelwy & Rhuthin today [27 Tachwedd], nearly all the flooded homes were modern houses, built on the flood plain, just asking to be flooded when the river does what it's done for countless generations.. that's what a flood plain is for, not for housing people on land that provides nature's solution to dealing with excess rain, run-off, overflowing rivers and flash floods. And all those new homes have tarmacked roads around them, & concrete driveways (not to mention the dam effect of the built up A55 holding back waters of one unfortunate estate). I think the reason flooding events are more prevalent now is two-fold, yes, there has been an increase in the NUMBER of heavy rainfall events in recent years, but there have been many recorded incidents of such events in past years as well. The problem today is that so many new homes have been built in flood prone areas, great swathes of land

tarmacked & cemented over, disrupting the natural drainage, so MORE people are affected by flooding, every flooding event becomes newsworthy BECAUSE it affects people, and so it seems as though flooding events are on the increase when many of the causes are created by building development.

So, yes, I for, I wouldn't be surprised if the narrowing of the stream at Groeslon with an artificial wall has added to the greater likelihood of that stream flooding, again it's simple enough..the original water course had more space to carry away flood water, the altered water course has less space & the dynamics would be different too.