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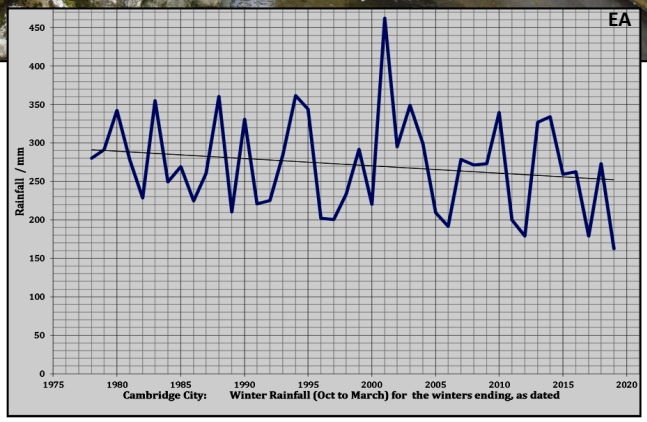
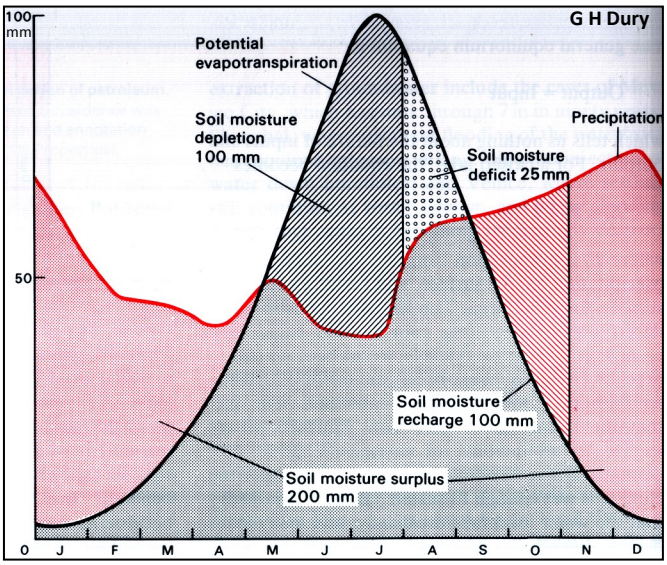
Chair: Stephen Tomkins Editor: David Brooks
Please email davidbrooks@btinternet.com with any items for him to consider for the next newsletter or to request that your address be taken off (or added to) the emailing list. Do forward this newsletter to anyone interested.





Where has all the water gone?

Many have noticed the current low water flows throughout the Cam Valley (not least The Times). The June rains may have been good for your lawn but they will have done nothing for the Chalk aquifer.

The left hand photograph shows a tributary of the Little Wilbraham River trickling through the Environment Agency (EA) gauge station beside the road from Fulbourn to Great Wilbraham, at Cole's Bridge. Just 400 metres further along the road is the course of another tributary (right hand photograph) which has dried up completely (permanently?).

The lower graph shows the relationship between monthly rainfall and the seasonal changes in the combined potential (maximum) rates of evaporation from the soil/ land surface and transpiration from the leaves of plants. It is a schematic diagram which, in essence, can be applied to the Cam Valley. In the summer, evapotranspiration exceeds rainfall so, overall, the soil becomes drier and drier. During winter (lower temperatures and fewer leaves) rainfall exceeds evapotranspiration so soils gradually become replenished and eventually saturated so that soil water can sink down into the bedrock causing the water table to rise and spring flow eventually to increase.

So, winter rainfall is critical for replenishing the aquifer. Summer rainfall is not. The upper graph shows changes in winter rainfall (October to March) in Cambridge for the 40 years from 1978 to 2019. The sloping black line shows that it is possible to reason that the trend of winter rainfall is in decline. Meanwhile, the water we draw from our taps contributes to the inexorable lowering of the Chalk's water table. Perhaps 12,000 houses will be built on Marshall Airport alone. Cambridge Water would be legally obliged to supply water to the resulting, perhaps 30,000 or 40,000, additional residents.