



### **Peat subsidence at Holme Fen, UK**

Among the world's many geological splendours, there are few sites where Britain can claim to have the best. But for a demonstration of ground subsidence on peat, none comes better than the unassuming woodland of Holme Fen, just south of Peterborough, in Cambridgeshire. The original wetlands of the English Fens were drained, largely during the 18th century, to produce valuable farmland, but it was soon realised that ground subsidence was an inevitable consequence of drainage of the thick peat soils. These compacted when they lost the internal support of their pore-water pressure, and they also lost volume by simply oxidising to gases once exposed to the atmosphere; this latter process is known as wastage. Holme Fen was the last fen to be drained, in 1850, so the landowner set an iron post into the ground, founding it on wooden piles that had been driven into the stable clay more than six metres down. With the top of the Holme Post level with the ground surface at that time, it became the perfect marker to record the ground subsidence that followed. The land dropped two metres in the first few years after the fen was drained, and thereafter subsided more slowly, but a little more rapidly with each new phase of land drainage that had to be installed as the ground subsided towards its contemporary water table. The photo on the left was taken by Gordon Fowler in 1933, when the land was about a metre higher than its present position. Just over two metres of the post now remains buried in the soft peat, and sea level is close to the collar that links the steel guys (which were recently installed to ensure the post's continued stability). This is now the lowest land in Britain, and it would continue to subside until the peat is all gone. However, current conservation measures have maintained water levels above those in the surrounding farmland, thereby preventing further subsidence over the peat that is preserved where it is kept saturated. © *Photograph and text by Tony Waltham Geophotos*