

## ***Céide Fields — how old are the pre-bog, stone-wall fields at Céide Fields, north Mayo?***

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Céide Fields, situated on the spectacular north Mayo coast, is one of the best preserved ancient farming landscapes not only in Ireland but in Europe as a whole, thanks to the extensive growth of blanket bog that covered and preserved for posterity these landscapes (see photos). Widely regarded as dating to the Neolithic, i.e. 4000–2400 BC, and hence of great cultural importance, Céide Fields has been the subject of detailed study by archaeologists and other researchers for well over half a century. The dating of the stone-wall field systems to the Neolithic relies on evidence derived from, *inter alia*, archaeological surveys and excavations, pollen analysis, study of bog-pine timbers, i.e. bog deal, and radiocarbon dating.

In 2017, the available evidence and the interpretations proffered by archaeologists and palaeoecologists were seriously questioned by A. Whitefield who argued for a much younger age (Bronze Age or even Iron Age; see “Céide Fields could be 2,500 years younger than thought, expert claims”, Irish Times, February 3, 2017; <http://www.irishtimes.com/news/ireland/irish-news/c%C3%A9ide-fields-may-be-2-500-years-younger-than-thought-1.2961569>).

In the meantime, palaeoecologists, M. O'Connell, K. Molloy and E. Jennings — researchers in the Palaeoenvironmental Research Unit, NUI Galway (NUIG) — have compiled and critiqued all available palaeoecological datasets from Céide Fields and the north Mayo region that have been generated by themselves and others over the course of some sixty years. Their findings are now available (open access and hence free to download) in the international journal *E&GQSJ*, published by Copernicus, the EU publishing house (O'Connell et al. 2020). This new synthesis not only confirms the early Neolithic age of the field systems but also leaves no doubt as to the intensity of the initial phase of Neolithic farming in north Mayo. This started at 3800 BC and lasted for 400 years. Not only was it of long duration, but the fossil pollen evidence suggests that it was more intensive than any farming of Neolithic age so far recorded in Ireland or Britain.

In all likelihood, construction of the regular system of field walls at Céide Fields took place during the earlier part of the intensive farming phase in the early Neolithic. The fossil pollen evidence, taken in conjunction with the large fields (many fields are at least 4 ha, i.e. 10 acres, in size), indicates that the farming was mainly pastoral — more than likely a cattle-based farming economy. Cereal cultivation, however, also took place and was undoubtedly an integral part of the local farming economy.

The intensive, early Neolithic farming phase was followed by a period — about three centuries — with reduced, though still substantial farming activity. After that, there was a lull in farming that lasted several centuries. It was during this lull, in the late Neolithic and prior to the onset of the Bronze Age, that major expansion of blanket bog occurred. Blanket bog, today a dominant landscape feature in north-west Mayo, is sometimes referred to as ‘climatic peat’ because of its requirement

for high and frequent rainfall. The NUIG researchers show that a shift towards wetter and cooler climate, in itself, does not provide a satisfactory explanation for the way in which Neolithic farming waxed and waned at Céide Fields. Other factors that were possibly involved include deforestation, soil acidification, and impoverishment through prolonged use with little or no replenishment of essential nutrients. However, abandonment of farming, in the context of a considerable population decline triggered by cultural and socio-economic factors, was probably more important than any fluctuations in climate.

As well as exploring the various issues touched on above, the phenomenon of pine growing within blanket bog contexts — a frequent occurrence in the past — is discussed at length in the light of the many radiocarbon dates now available from fossil pine timbers preserved by bog, not only at Céide Fields but also elsewhere in Co. Mayo, including Erris, Garrynagran and Shanallycahill. This new information sheds much light on landscape development and indeed the dating of the field systems. The substantial and multi-disciplinary body of evidence now available demonstrates, beyond all reasonable doubt, that the pre-bog field system at Céide Fields pertains to the Neolithic and indeed the earlier part of the Neolithic as known from Ireland, Britain and much of north-western Europe including Scandinavia, a view that is also shared by most archaeologists and other palaeoecologists.

## References

O’Connell, M., Molloy, K. and Jennings, E. 2020. Long-term human impact and environmental change in mid-western Ireland, with particular reference to Céide Fields — an overview. *E&G Quaternary Science Journal*, **70**, 1–32; <https://doi.org/10.5194/eggsj-70-1-2020>

Whitefield, A. 2017. Neolithic ‘Celtic’ fields? A reinterpretation of the chronological evidence from Céide Fields in northwestern Ireland. *European Journal of Archaeology*, **20**, 257–179.

## Captions for photographs

Signage for Céide Fields Visitor Centre; view to east towards Downpatrick Head (photo: M. O’Connell, 14/06/2017).

Section of pre-bog stone wall. View to the north towards the Visitor Centre at Céide Fields and the Atlantic Ocean. The uplands of south Donegal are in the distant background (photo: M. O’Connell, 20/10/2010).

View from Glenulra Basin towards the Visitor Centre at Céide Fields. Core GLU IV was taken in this basin (photo: M. O’Connell, 14/06/2017).