EMS Annual Meeting Abstracts
Vol. 14, EMS2017-858-2, 2017
© Author(s) 2017. CC Attribution 3.0 License.

Evidence for a 15th Century tsunami event on the southwest coast of Ireland

Abigail Cronin (2), Darius Bartlett (1), Robert Devoy (1), and Kieran Hickey (1)

(2) Centre for Marine and Renewable Energy Ireland (MaREI), University College Cork, IMERC Campus, Ireland, (1) Department of Geography, University College Cork, Ireland

This paper presents the results of investigations into a coastal site at Tralispean, West Cork, Ireland. At the site, a sequence of high-elevation marine sands has been found that contains both broken and whole marine shells, and many large boulders (<2m diameter) suspended within the finer material. The sediments cover an area of c.0.75 hectares and reach a height of c.18.5m above Ordnance Datum Malin, with sand thicknesses of >1m. Coring and lithostratigraphic studies, together with examination of micro- and macrofossils, indicate that the sediments were deposited very rapidly, under high energy conditions, and probably as the result of a single event. Combined field and laboratory investigations lead to the conclusion is that this deposit is not the result of human activity, nor of agents of change such as storms, but most likely shows the impact on the coast of a tsunami. Accelerator Mass Spectrometry (AMS) radiocarbon dating of a sample of peat taken directly above the sediments at their easternmost extent yielded a date of 550 years BP and thus places the event that led to deposition of the feature at c.1465 AD. At present, no clear historical record has been identified of any tsunami impacts affecting the south coast of Ireland other than from the Lisbon earthquake of 1755. A search has begun for additional sites along the south and west coasts of Ireland, where additional evidence for this presumed tsunami event may exist. Two, and possibly three, such locations have been identified to date, and preliminary examination of these has commenced.