

Manchester Geological Association
Abstract for the Meeting on Wednesday 21 March 2018

**Carboniferous carbonate platforms: limestone deposition in a changing climate:
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The Carboniferous period was a time of pivotal change. The Late Devonian extinction event meant that 50% of genera had become extinct. By the Carboniferous, volcanic activity was rife and forest growth was widespread. These forests removed vast amounts of carbon dioxide from the atmosphere, leading to surplus oxygen. Much of the land was characterised by coal-forming swamps, whilst the sea level fluctuated with the waxing and waning of polar ice caps.

Limestones are deposited in a 'carbonate factory', a highly sensitive environment which is dependent on relationships between biological processes, temperature, salinity, water depth, basin geometry, and volume of siliciclastic input. With such climatic variation in the Carboniferous, carbonate deposition was variable in both space and time. This talk will use two examples of coeval carbonate platforms from the Northern UK to demonstrate how carbonate deposition can vary in this way, even over short distances.