


# Geology field studies from Lleyn to Plynlimon

Graham Hall  
Nikki Charlton





**Cover illustration** Gwna mélange outcrop at Uwchmynydd at the tip of the Lley peninsula. This chaotic assemblage of blocks of limestone, sandstone and dolomite in a muddy matrix was produced by slumping from a continental shelf into a subducting trench on the margins of the Avalonian microcontinent in Cambrian times.

**Title page illustration** Proximal turbidite grit and quartz conglomerate sequence in the Lower Cambrian Barmouth Grit formation at Garn, Barmouth. These grits represent deeper water channel deposits below a marine slope, produced by faulting within the Meguma terrane block.

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## Preface

North West Wales exhibits a great variety of igneous, sedimentary and metamorphic rocks, and plays a key role in determining the plate tectonic history of southern Britain from late Precambrian to Devonian times. Geological field studies in the region take us to many beautiful and remote locations, from ancient forests to spectacular rock outcrops on mountain crags and along the rocky coast and cliffs.

For a number of years we have conducted geology field courses based in the area, and have compiled this book to encourage geology students and visitors to explore this fascinating part of Wales. We have tried to provide excursions which combine important geological observations with enjoyable walks through memorable scenery.

Many individuals have contributed to the material in this book. In particular, we would like to thank:

GCSE and A-level geology students and the geology adult education group at Coleg Meirion-Dwyfor, Dolgellau, who joined us in exploring many of the locations in this field guide. We are particularly grateful for the generous contribution of photographs, diagrams and field notes. Special thanks go to: David Dorling, Hywel Madog Jones, Ray Hind, Hugh Emsley and Margaret Hall. We also remember our late colleague and friend Paul Baker.

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