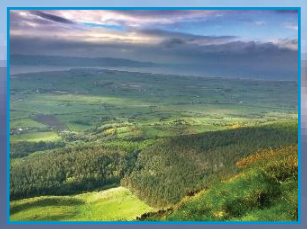
Binevenagh Mountain

Information Sheet



Location: BINEVENAGH MOUNTAIN
Conservation designations: AONB, NNR, SAC, ASSI
Grid reference: 269019, 430747 (Irish Grid)
Address: Binevenagh Forest, Limavady, BT49 0JF
Parking available: Yes, small car park available at Binevenagh Lake (only suitable for cars and minibuses). Forest road not suitable for coaches
Personnel to be contacted prior to visit: N/A
Virtual visit: It is possible to visit this location using the virtual reality tools on www.driftingapart.eu

Useful equipment:
- Stationary
- Camera
- Metre stick
- Binoculars

Relevance national curriculum:
KS4 Geology – Petrology
KS4/5 Geography – Coastal Landforms

Rock types and geological processes observed: Sedimentary (Mudstone, Conglomerate, Sandstone and Ulster White Limestone), Igneous (Basalt), Metamorphic (gneiss, schists and quartzite), Sands and Gravels
Geological structures: Layering, laterite layers, slumping, sand dunes
Earth processes: eg. Continental drift, coastal flooding, glaciation, orogeny
Geological periods present: Pre-Cambrian, Silurian, Jurassic, Cretaceous, Paleogene and Quaternary

Site specific hazards and risks:
- Loose and slippery rocks and paths
- Steep and dangerous cliffs
- Livestock
- Traffic

It is advisable to carry out a dynamic risk assessment before embarking upon a study visit

Mitigation measures:
- Stay at a safe distance from the cliff edge
- Wear appropriate clothing and footwear
- Avoid loose or unstable ground
- Observe the countryside code at all time
- Do not disturb livestock
- Embark and disembark vehicles in the designated parking areas

Did you know: The various collisions and deformations that resulted from the closure of an ocean known as the Iapetus, during the Silurian, are known as the Caledonian-Appalachian Orogeny. Just as the recent and continuing collision of India with Eurasia has formed the Himalayas, so the combined effects of the Caledonian-Appalachian Orogeny raised a composite mountain chain over a period of 200 million years. Part of the remains of this once great mountain chain can be seen in the hills of Inishowen today. During the Jurassic as the supercontinent Pangaea continued to break up, a developing rift between North America and northwest Africa was marking the opening of the future Atlantic. As the crust stretched and thinned, cracks began to appear, up through which magma rose to form dykes. This part of Ireland was 40oN of the equator with a climate that resembled that of present day humid countries with monsoon-type summers. Warm shallow seas repeatedly covered the edge of the landmasses and enabled the formation of the sandstones and mudstones found at Tircreven Burn.

Topics to cover before visit: Rock cycle, geological time, fossils and fossil preservation, depositional environments, plate tectonics, coastal processes, intrusive and extrusive igneous activity.

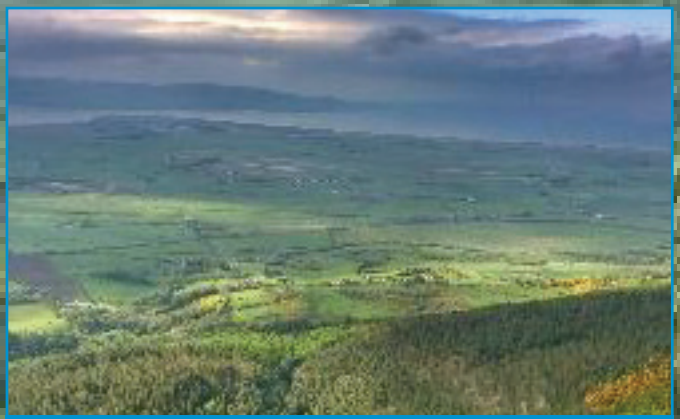
Keywords: Pre-Cambrian, Jurassic, Cretaceous, Paleogene, Quaternary, Plate Tectonics, Basalt, Laterite Mudstone, Conglomerate, Gneiss, Schist, Quartzite, Ulster White Limestone, Fossils, Slumping, Sand Dunes, Glaciation, Deposition, Caledonian-Appalachian Orogeny, Iapetus Ocean, Laterite, Spit, Isostatic Rebound, Fossils.

Format developed by the Western Education and Library Board's Magilligan Field Centre

Basalt

Conglomerate

Limestone with Belemnite Fossil



Magilligan Point

Slump Blocks

Layered Basalt

Geological history*:
Inishowen Peninsula is composed from some of the oldest rocks in Ireland - Pre-Cambrian gneisses, schists and quartzite which were subject to a period of mountain building known as the Caledonian Orogeny 400 million years ago during the Silurian. At that time an ancient ocean known as the Iapetus was closing between N.America and Europe. At nearby Tircreven Burn (public access not permitted) it is possible to see sandstones and mudstones which formed during the Jurassic Period (200 million years ago). The sandstones and mudstones exposed at Tircreven Burn demonstrate that warm shallow seas repeatedly covered this area. Fossils contained within the rock provide evidence of the range of life present in the Jurassic seas. During the Cretaceous period (145 to 65 million years ago) higher sea levels meant this part of Ireland was located under a warm, tropical and very productive ocean. Over millions of years the calcic remains of billions of micro-organisms that lived in this ocean formed thick deposits of white limestone. During the Paleogene (65 million years ago) there was a period of extensive volcanic activity in this part of Ireland as North America and Europe drifted apart due to plate tectonic activity. Divergence of the North American and European plates caused the Earth's crust to stretch and thin. This generated enormous amounts of heat and consequently huge volumes of basaltic magma and lava which intruded through the country rock, flooding over the landscape.