



Geology of the Tweed and the Eye

The rivers Tweed and Eye lie in the Southern Uplands, an area of higher ground which runs from near Dunbar to Girvan in Ayrshire. It is made up of sedimentary rocks of between 400 and 450 million years old. The area that rivers and their tributaries cover is called a catchment. There are several types of rock that make up this catchment. These include hard Greywackes, softer Old Red Sandstones and Carboniferous Limestones. Volcanic plugs form characteristic outstanding hills such as Ruberslaw, Minto, the Eildons and St. Abb's Head while the Cheviots are volcanic lavas.

This geological pattern forms the visible landscape - to the west, the harder rocks form a "dissected plateau" (a level area cut with river valleys), low rolling hills to the east which fall away to the flat lands of the Merse on the softer rocks. To the north there are high sea cliffs around St. Abb's which mark where harder rocks reach the sea in contrast to the long, smooth, sandy coastline south of Berwick formed where the softer rocks meet the sea.

18,000 years ago most of the area was under 2,000 metres of ice. The landscape shows the imprint of the last glaciation, where the peak of the local ice dome was over Moffat and the Tweedsmuir Hills. The flow of the glacier was largely eastwards, it eroded large amounts of bedrock which was left on the lowlands to the south and east when the ice melted. The ice started to melt around 10,000 years ago and in just a few hundred years left the landform as it is today. St. Mary's Loch occupies a basin formed by ice. Ice also broke through to create the Biggar Gap, this area is so flat that it allows links between the Tweed and Clyde catchments. Today there are three wetland areas in the Biggar Gap and it has been reported that Salmon that enter the Coulter Burn from the Biggar Water can end up crossing into the Clyde at high water levels.



Questions:

What is the name of a hard rock in the Tweed catchment?

What is the name of a soft rock in the Tweed catchment?

What is a catchment?

What is formed when hard rock meets the sea?

What is formed when soft rock meets the sea?

What features are formed in the landscape when glaciers melt?

Which hills were formed by lava?

Which loch was formed by ice?