



Geological landforms: Dorset and The Isle of Skye

Geology in Dorset

Iain Gilmour:

The difference in the ways these rock types erode, a mixture of soft shales and limestone's overlain by much harder limestone is responsible for much of the scenery of Dorset. Flying north from St Albans Head we see that the limestone plateau has been eroded by the sea producing the present day coastline, and by rivers which have cut these steep sided valleys. A little further north still and then to the west the topography changes from a plateau to a narrow ridge. We saw this ridge earlier, both from the ground and from the air. Even further to the west it meets the coastline again behind the MOD range, the army has a tank gunnery school -this is called Gad Cliff. Like the cliffs at St Alban's Head, these cliffs are composed of massively bedded limestone overlying softer clays. However, here the limestone's are no longer horizontal they seem to dip gently towards the left -that is, towards the west. Only when we get a 3 dimensional view of the bedding can we see the true dip direction which analysis of this aerial photograph shows is to the north.

From the air, and with a wider field of view we can see that there are two ridges of more resistant rock. This second ridge known as the Purbeck Hills continues east through Corfe Castle meeting the coast again at Ballard Down just north of Swanage. But here we're at the western end of the ridge at Warbarrow Bay looking east. And the cliffs of Warbarrow Bay where the second ridge meets the sea shows it to be yet another limestone, this time a variety called chalk. This model summarises what we've seen so far. The ridges are formed by the more resistant rock types -chalk to the north and Purbeck and Portland limestone's to the south. Between them is a succession of softer beds -in fact mudstones and shales and to the south of the Portland limestone more mudstone and shale.