



Geology Sheet 10

Where was the Burren Limestone formed?



The limestones of the Burren were laid down in a shallow tropical sea that stretched across most of Ireland, the UK, and parts of Northern Europe. The sea floor was relatively flat and monotonous, and was similar to the Bahamas or Persian Gulf today (Fig. 1).

Over time, the depth of the sea varied slightly, producing subtle changes in the composition of the limestones. These changes are not always visible with the naked eye - some can only be seen with a microscope. When the sea floor was within the photic zone (the upper zone of the sea that receives enough sunlight for plants to photosynthesis), corals lived on the sea floor. At all times, sediment on the sea floor was agitated or churned up by the action of waves and currents, and so many of the fossils have been broken up, turned upside down, and scattered.

These fossils have since been cemented together to form the limestone rock we see today.



Fig.1. Shallow limestone sea of the Bahamas.

The Burren region is unusual because many of the features in the landscape have been formed by dissolution of the underlying limestones. Such regions are termed “karst”, after the *Kras* region in Slovenia and NE Italy where this type of landscape was first described (Fig. 2).



The karst features of the western Burren and Burren uplands have been developing for only a few thousand to a few million years. In geological terms, these are very young features and so the landscape of this part of the Burren is an “immature” karst. A good example of a “mature” karst landscape is the Gort- Kinvarra lowlands, where karst features have been developing for several tens of millions years.

Fig. 2. The Kras region in NE Italy. Photo: Alessandro Brollo)