

How folding influences the development of landforms - 2015 Q3B

A landform formed by the process of folding is a fold mountain. Fold mountains can be seen all over the world and in Ireland, for example the Munster Ridge Valley. Fold mountains occur when two plates collide.

Continental - Continental Plate Boundary

One way that fold mountains can occur is at continental - continental plate boundaries. When two continental plates collide, neither plate subducts. This is because continental plates are too light to be forced downwards. Instead, they move upward in a process called uplift. As the plates collide, the huge amount of pressure forces layers of rock to buckle. This forms a series of fold mountains. The Indo-Australian plate collided with the Eurasian plate to form the Himalayan Mountains, which contains the highest mountains in the world. Mount Everest, the highest peak, is 8848m above sea level.

Continental - Oceanic Plate Boundary

Another way that fold mountains can occur is at continental - oceanic plate boundaries. When the plates collide, the heavier oceanic plate subducts into the mantle and melts. A large amount of friction is caused between the subducting plate and the overlying continental plate. As the oceanic plate subducts, huge pressure causes layers of rock at the edge of the continental plate to buckle upward, forming a series of fold mountains. For example, this can be seen in South America, due to the subduction of the Nazca plate under the South American plate. This has led to the formation of the Andes Mountains.

Sometimes folding can form other distinct landforms such as monocline or domes. Monoclines are mountains and other upland structures formed by smaller earth movements. They are formed when sedimentary rock is uplifted and faulted due to compression and they tilt in one direction. This can be seen at Ben Bulbin in County Sligo.

Domes are round structures with a high peak in the centre and sloping sides. They are usually caused by pressure from magma rising beneath the crust which causes the crust to bulge upwards. This can be seen at the Slieve Bloom Mountains in County Laois, which were formed during the formation of the Leinster Batholith.