GEORGE'S FIELD NOTES

LOCATION: GWYDIR RIVER

GEOLOGICAL FEATURE: CONGLOMERATE DEPOSITION

ROCK UNIT: MODERN SEDIMENT, 0 MILLION YEARS OLD

Geologists often use a principle called Uniformitarianism, which means that the way that natural forces work on the Earth today are the same as they did millions of years ago. This means that by looking at the world around us now, and the processes that can make new rocks today, we can compare modern rocks to those from the past and figure out how they formed.

A fantastic example of this can be found in rivers. At the bottom of most rivers are round, smooth pebbles. As pieces of rock are washed down hill and into rivers, they get rolled along and the corners and sharp edges get broken off. The energy of water moving down the rivers can sometimes be enough to pick up pebbles and roll them along the bottom of the riverbed, which tumbles the rock and keeps smoothing it off. The smaller pieces of rock that get broken up into sand and mud get carried away by the water and deposited elsewhere, leaving mostly pebbles behind.

In ancient rocks, geologists sometimes find layers made up almost entirely of pebbles, exactly like we find in the bottom of riverbeds today. These rocks are called Conglomerates. By comparing these different environments geologists are able to work out that those ancient pebbles were made in ancient rivers and discover where and when rivers were flowing in the past.

20 million year old Conglomerate, Armidale

River Pebbles today, Gwydir River, Yarrowyck

une University of New England Discovery