



Core units: Exemplars – Year 8

Illustration 1: Landscape and landforms of Wilsons Promontory

Landscapes and landforms

Key definitions

Landscape: The visible features of an area, including:

- natural elements of landforms (such as mountains, valleys, coastlines) and water bodies (such as rivers, lakes, seas and oceans)
- living elements of land cover (including vegetation and wildlife)
- human elements (including different forms of land use, buildings and structures)
- changeable elements (such as weather conditions).

Landform: The shape (morphology) and character of the land surface that results from the interaction of physical processes. For example, the action of water (fluvial action), action of wind, glacial action and weathering, and the movements within the earth's crust.

Geomorphology: One of the important parts of geography that involves the study of the interaction of the atmosphere (air), biosphere (living things), hydrosphere (water) and lithosphere (rocks), and the shapes that make up the physical environment of the earth's surface. It also includes the relationship, and the results of the relationship, between people and the earth's surface.

Geomorphic processes

Landscapes develop because of the geomorphic processes that have taken place over time. Two of the most important agents of these processes are:

- erosion (for example, the sand-blasting of wind in arid environments, the power of glaciers in alpine areas, running water in rivers and waves on coastlines)
- deposition (for example, the laying down of silt deposits on the flood plain of a river in humid environments).

Some of these processes are the products of internal forces working in or below the earth's surface. For example, volcanic eruptions which produce molten rock (volcanism) and earthquakes which involve movements along fault lines.

Other processes such as the movement of water and the action of wind also shape the earth's surface into landform features. The movement of water can take the form of either liquid (for example, streams and rivers) or solid (for example, glaciers or ice sheets).

Landscape types

It is possible to classify natural landscapes in a variety of ways. Some of the more commonly recognised types are listed below.

Arid landscapes: An environment in which streams and river channels are dry for most of the year and may not flow at all for many years. There are two types of landform in desert environments:

- those where wind is the main agent of erosion
- those where water is the main agent of erosion.

(Yes, water can be a main agent of erosion in arid environments!)

Coastal landscapes: An environment in which water is the main geomorphic agent. Water, in the form of waves, can either gently lap or violently crash against the coastline. Wind can also be a geomorphic agent in this environment. Both water and wind create many coastal landforms such as cliffs, caves, beaches, dunes, reefs and islands.

Glacial landscapes: An environment in which water, in its solid state (ice) is the main agent of erosion. Approximately 10% of the earth's surface is covered by ice. It can be either in the form of glaciers (which are like rivers of ice flowing down valleys) or ice sheets (such as those that cover most of Antarctica and Greenland). Glaciers have expanded and contracted throughout the geological history of the earth. Today it is possible to see two types of glacial landscapes:

- mountainous regions where glaciers may still be found and in which there is much evidence of more extensive glaciation in the past
- lowland regions where glaciers retreated during past geological times.

Humid landscapes: An environment in which water has eroded the land surface to produce different types of landscapes and landforms. In humid environments the action of water takes place throughout the year via the work of continuously running streams and rivers.

Volcanic landscapes: An environment in which molten rock acts as a geomorphic agent. The process is called 'volcanism' and results in the molten rock being forced into the earth's crust or out onto the surface of that crust (the earth's surface). Volcanism produces landforms that are:

- intrusive features, found underneath the earth's surface (for example, dykes)
- extrusive features, found above the earth's surface (for example, a volcanic cone).

(Yes, the forces of erosion can uncover intrusive features that were previously formed below the land surface!)

Activities

Think about the site of your school and its surrounding landscape and then complete the following activities.

1. Describe the site of your school. Is it, for example, on a floodplain, slope, ridge, or on a flattened coastal dune system?
2. Identify the prominent landform features found near your school. What processes were involved in their formation?
3. Describe the landscape of the region in which your school is located. Is it, for example, a flat alluvial plain, a hilly area with steep-sided valleys, a coastal plain with sand dunes, or a low-lying area with a meandering river and gently sloping flood plain?
4. Identify any waterways near your school. How have these waterways influenced the landforms of the area in which your school is located?
5. Identify the nearest coastal area. What are the prominent landforms of this coastal landscape? Are they erosional or depositional in nature?
6. Identify the nearest mountains to your school. Are they an example of folding or faulting? Are they part of a plateau or escarpment? Are they volcanic in origin?
7. What processes were involved in creating the fold mountain, block mountain, plateau or volcanic feature?
8. Is there any evidence that people have been affected by, or have had an impact on, the landforms in the area of the school? Outline your evidence.