

# Geography: Biophysical Interactions

## Lake Albert Fieldwork

Name: \_\_\_\_\_

The Lake Albert catchment consisting of its landform, soils, drainage system and plant communities is a result of the interaction of biophysical factors including climate, rock weathering, soil erosion, the deposition of sediment and the evolution of plants and animals over hundreds of thousands of years. This field study will investigate the end product of these long term interactions and the much shorter term actions of people.

### Lithosphere

Landform

description: \_\_\_\_\_

slope angle: \_\_\_\_\_

Geology

Rock type \_\_\_\_\_

Minerals \_\_\_\_\_

Weathering \_\_\_\_\_

Soils	top soil	subsoil
depth	*	*
pH	*	*
texture	*	*
slaking	*	*
colour	*	*

### Atmosphere

Temp °C:	Humidity %:
Rainfall mm:	Wind:

Climatic problems for people

### Biosphere

Vegetation

Tree species on hills: \_\_\_\_\_

Tree species in valley: \_\_\_\_\_

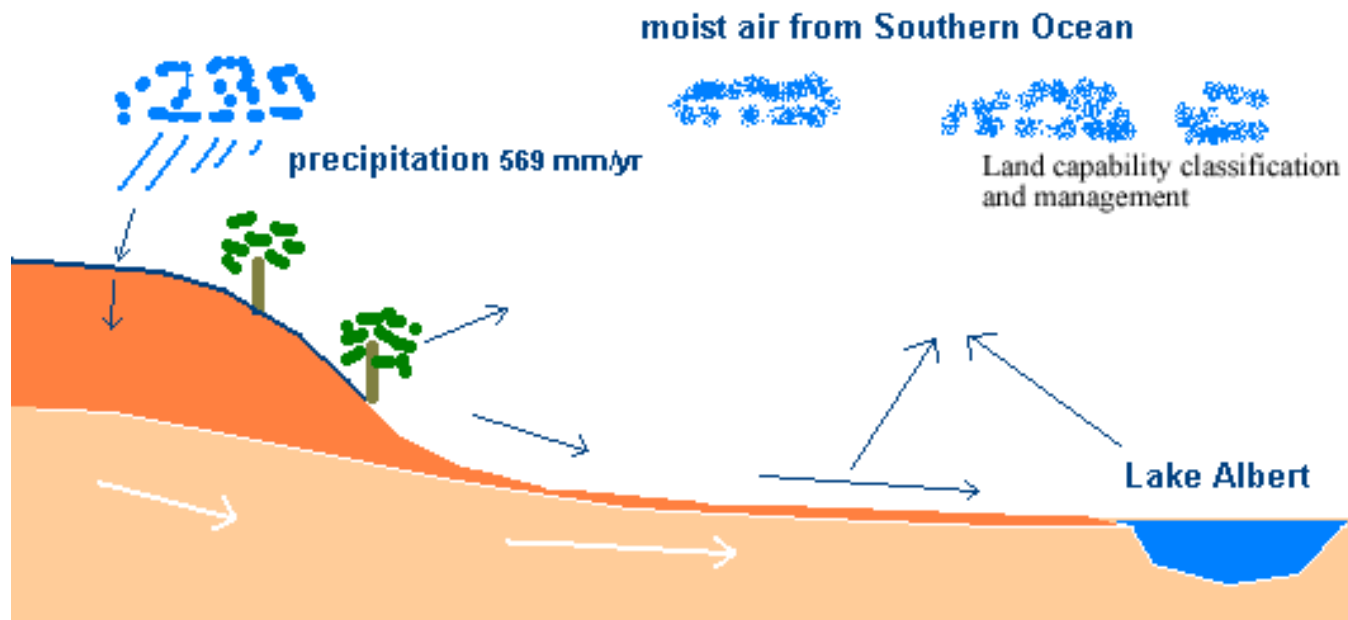
Percentage natural vegetation cover left in catchment: \_\_\_\_\_

Give reasons why the tree species in the valley are different to those on the hills.

## Hydrosphere

Label the diagram with the following words:

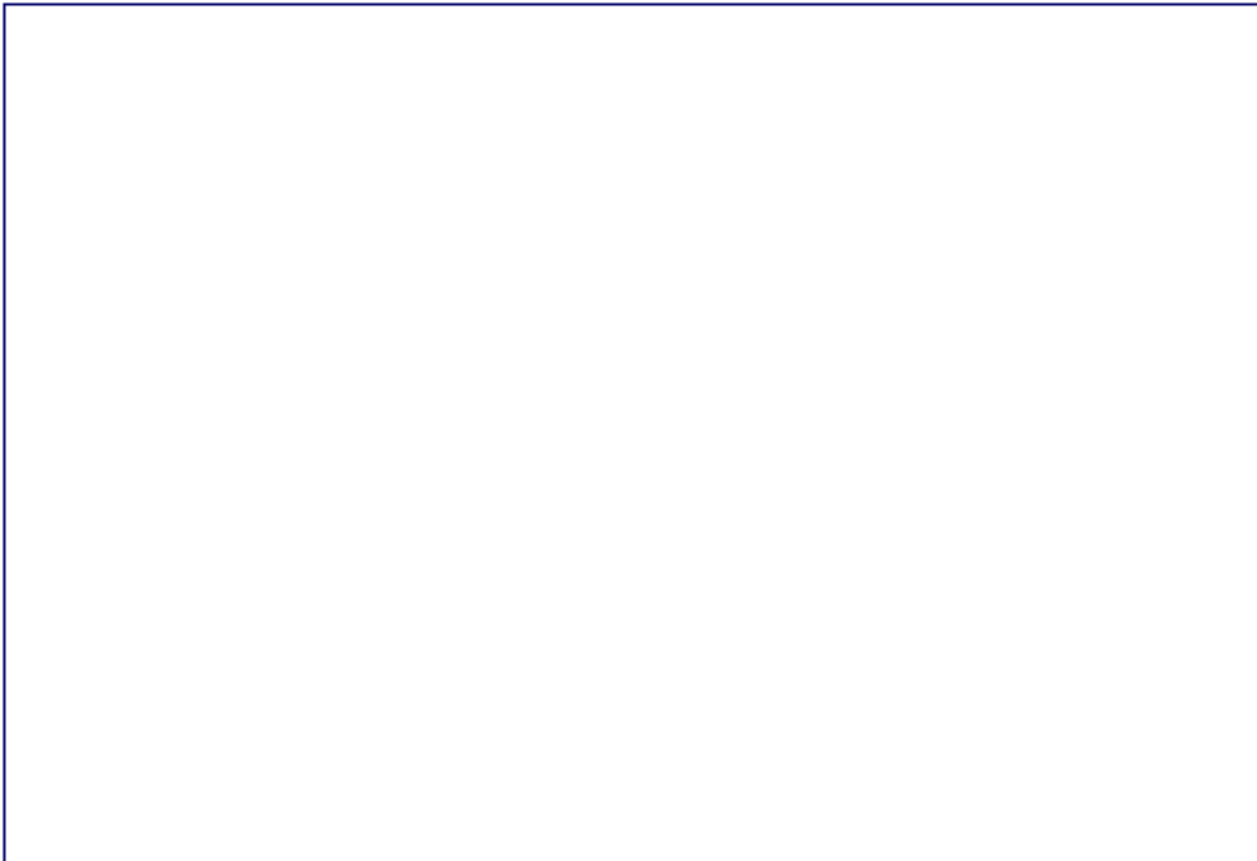
groundwater, water table, recharge, discharge, evaporation, transpiration, precipitation



## Drainage

Surface Water -name major creeks and lakes:

Fluvial Processes: Sketch a meander in a creek and label the areas of deposition and erosion. What is the relationship between the energy of water and areas of erosion and deposition?





1. Water Quality	*
2. Dryland Salinity	*
3. Soil Erosion	*

### Land Capability and Management

Class	Land Limitations	Management
i.	slope 0-1 <sup>0</sup> , prime agricultural land, fertile	many uses, no special soil conservation practices or structures.
ii.	slope 1-3 <sup>0</sup> , gently sloping, similar to i. but minor limitations.	Strip cropping, conservation tillage, crop rotation.

iii.	slope 3-7 <sup>0</sup> , soil erosion problems can be severe and limit crop yields	As for ii. but also structural works including graded banks, waterways and diversion banks.
iv.	slope 7-14 <sup>0</sup> , not suitable for cropping on a regular basis, soil erosion, shallow, rocky soil, occasional cultivation for pasture renewal.	Better grazing land, practices such as pasture improvement, stock control, fertiliser, minimal cultivation to establish pasture
v.	slope 7-14 <sup>0</sup> , soil erosion problems severe, shallow, rocky soil.	As for iv. and structural works including diversion banks, contour ripping.
vi.	slope 14-18 <sup>0</sup> , no cultivation, less productive grazing land, shallow, infertile soil	Less productive grazing land. No cultivation, aerial sowing of permanent pasture, limit stocking rate, prevent fire and vermin.
vii.	18-27 <sup>0</sup> , steep slopes, rocky outcrops	Protect land with trees, important habitat for biodiversity
viii.	Unsuitable for cropping or grazing, cliff, lake, swamp	Land incapable of sustaining agriculture or pasture, protect as water supply and wildlife refuge.

## Report

Select one major issue in the Lake Albert catchment.

- What is the issue?
- Where is it located in the catchment?
- What has caused the problem?
- What affect has the problem had on the catchment and the people?
- How can the catchment be managed for sustainable use?

Include maps, diagrams, tables, graphs, photographs and the results of field tests.



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