



RAFFLES INSTITUTION
Preliminary Examinations 2015

H2 GEOGRAPHY

9730/01

Paper 1 Physical Geography

Duration: 3 hours

INSERT 1

READ THESE INSTRUCTIONS FIRST

This Insert contains all the tables and figures referred to in the question paper.

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Fig. 1A for Question 1

Seismographs	Very sensitive sensors detect ground movements.
Wind vanes and anemometers	These instruments monitor wind speed and direction to predict where ash clouds will go.
Aircraft	Planes collect particles from ash clouds for analysis.
LIDAR	Light and radar sensors pick up the density and height of ash.
Gas samples	Increased amounts of gas, especially sulfur and carbon dioxide, may be a sign of a possible eruption.
Temperature sensors	Temperatures around the volcano are measured. A sudden increase suggests an eruption is possible.
Video cameras	Video cameras detect changes in the volcano and the start of eruptions, lava flows or pyroclastic flows.
GPS	Satellites can detect the movement of special sensors around volcanoes from space. If the volcano is swelling up, an eruption could occur.
Tide gauges	Changes in tide level are evidence that the sea bed is swelling, a sign that a nearby volcano may erupt.
Tilt meters	Meters detect the sides of volcanoes swelling up when magma is rising. Continuous swelling is a sign that an eruption is likely.
Groundwater levels	Changes in the levels of water in wells or boreholes can be a sign of changes in pressure and increased risk of an eruption or earthquake.

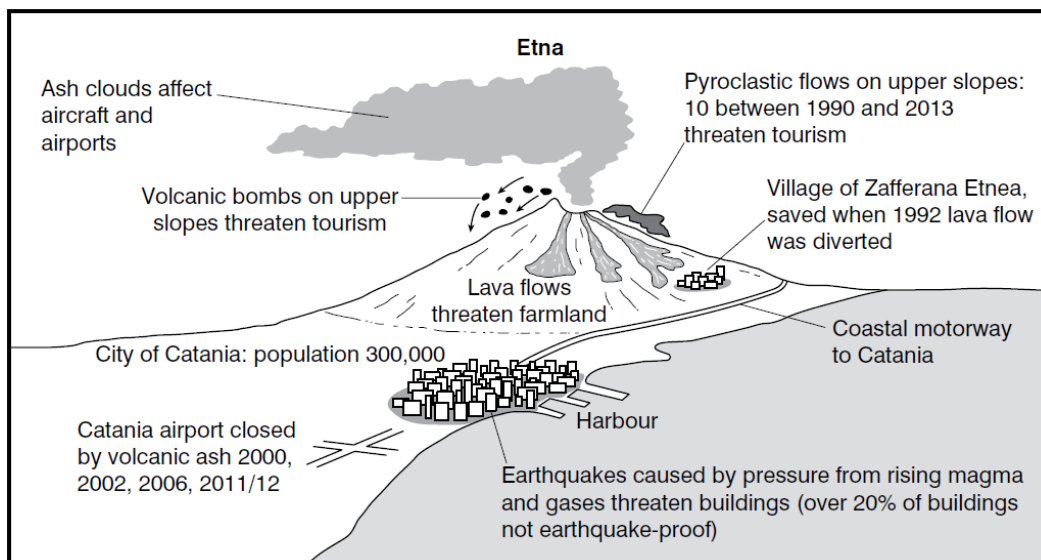
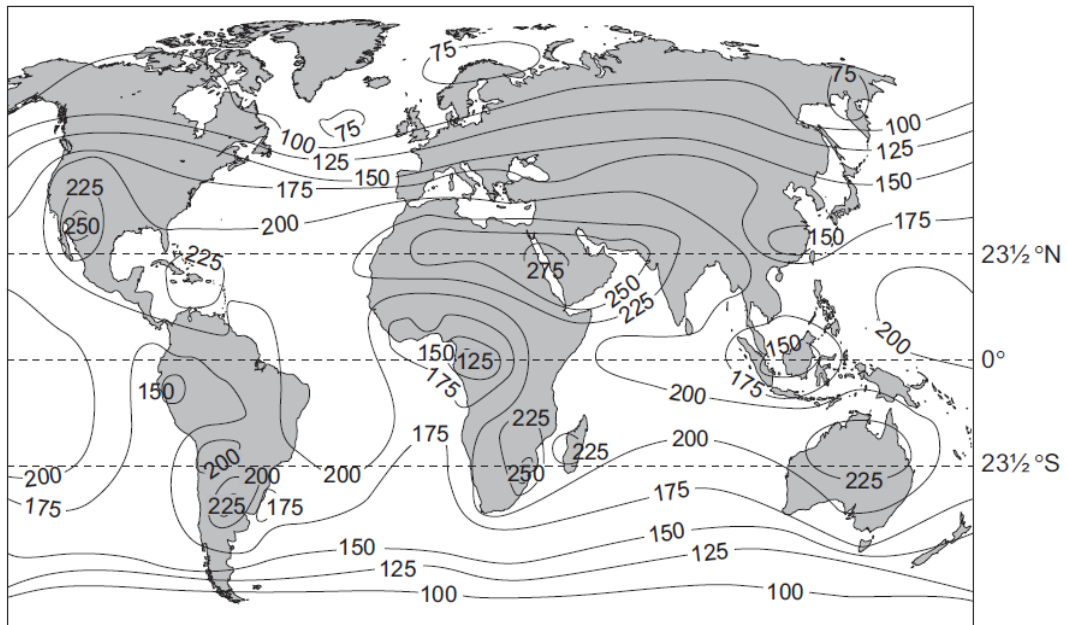
Fig. 1B for Question 1

Fig. 2 for Question 2

The global distribution of average annual insolation

**Key**

– 200 – Insolation values as measured at ground level in watts per square metre

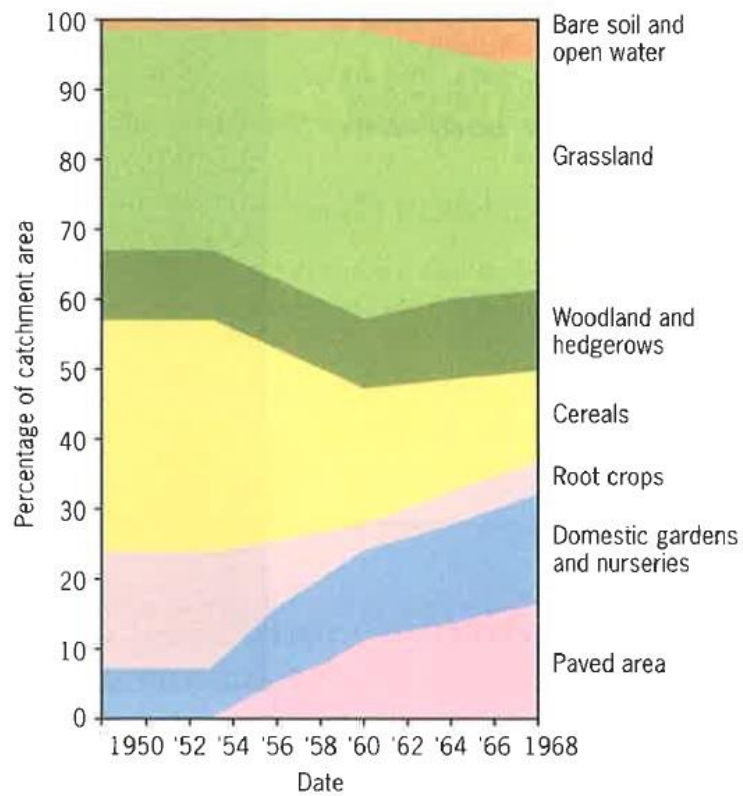
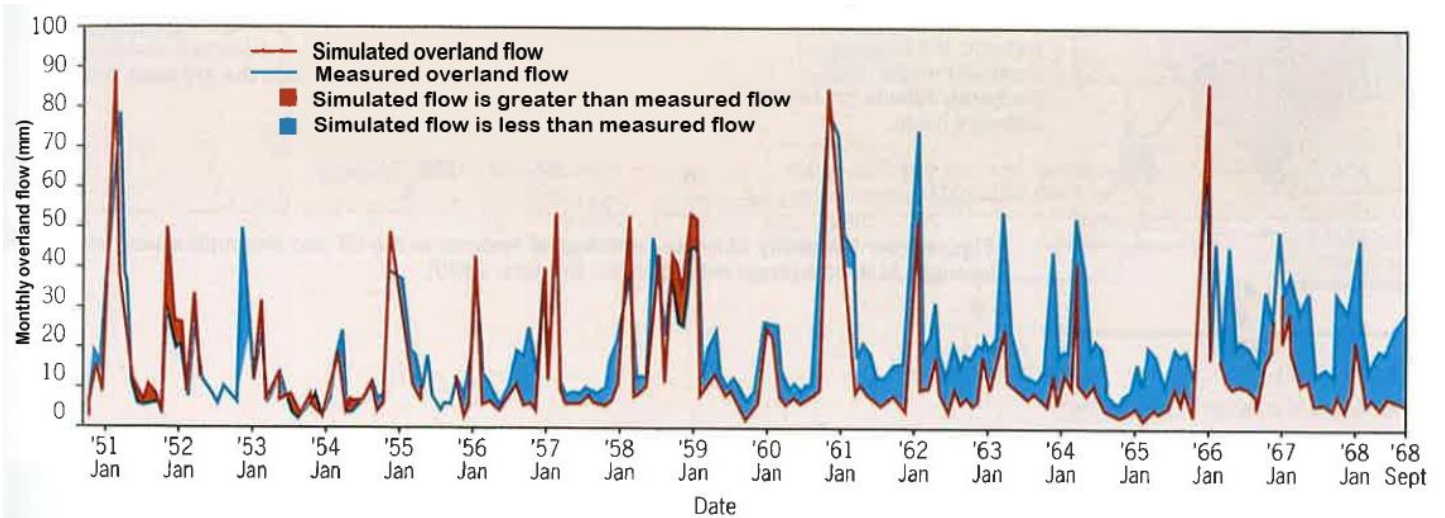
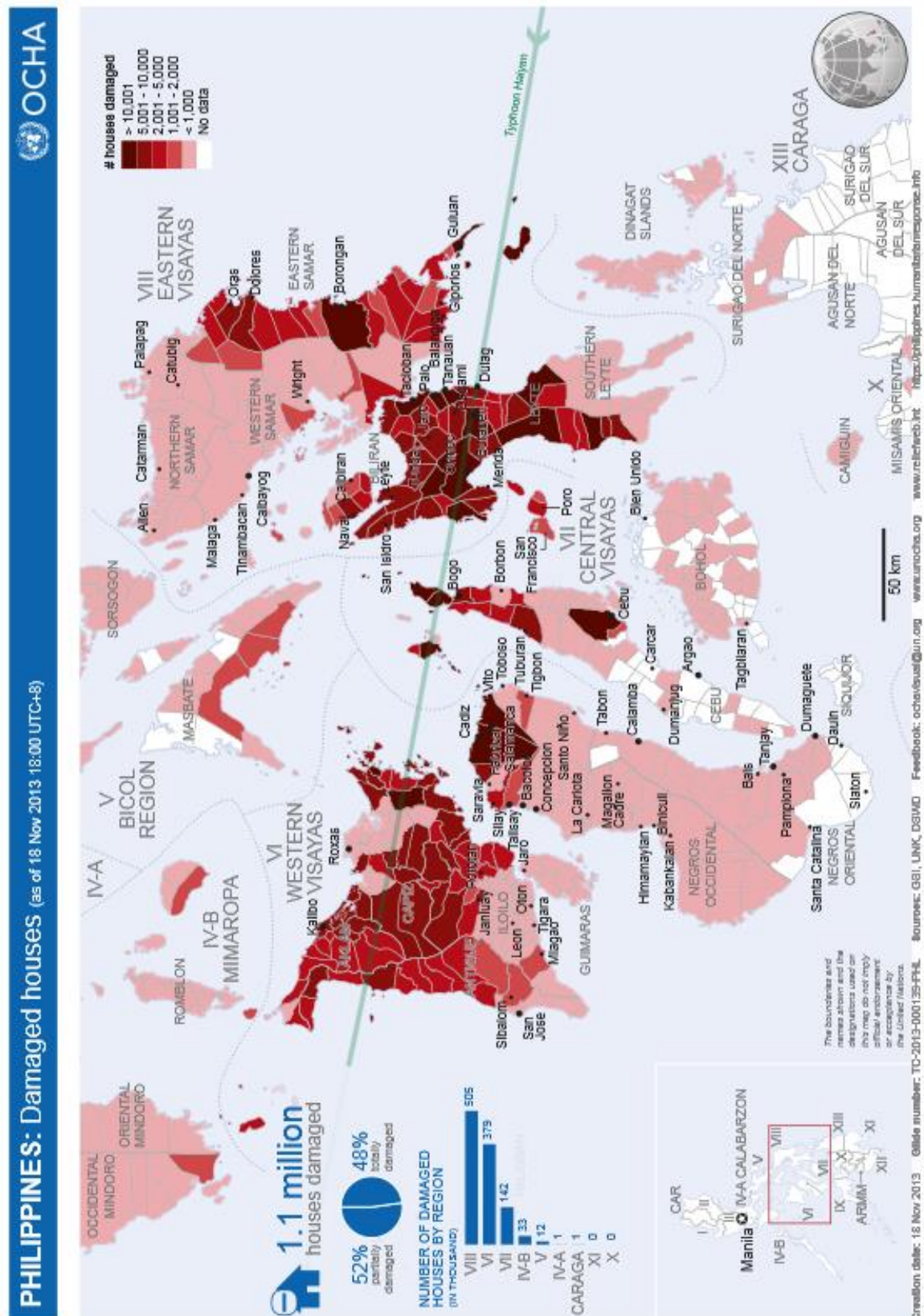
Fig. 3A Question 3**Change in land use in Cannon's Brook from 1950 - 1968****Fig. 3B for Question 3****Changes in overland flow from Cannon's Brook catchment from 1950 - 1968**

Fig. 4A for Question 4

Path of Tropical Cyclone Haiyan in November 2013



Damage caused by Tropical Cyclone Haiyan



Photograph A for Question 4

A hill in Tacloban after the tropical cyclone



Photograph B for Question 4

A neighbourhood in Tacloban after the tropical cyclone



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