

# FORM 4 GEOGRAPHY NOTE 10

## PHYSICAL ASPECTS OF THE PACIFIC AREA

### *2 MAIN TYPES OF ISLANDS IN THE PACIFIC*

1. Continental islands
2. Oceanic islands
  - i. Volcanic
  - ii. Coral

### **CONTINENTAL ISLANDS**

Large islands that were separated from the main continental mass.

They are islands rising off the continental shelf.

An example is New Guinea, Tasmania and Indonesia.

### **OCEANIC ISLANDS**

They are smaller, more scattered islands.

They are either high volcanic islands or low coral islands.

- **Geologists** studied landforms and the ice sheets 15,000 years ago.

### **FORMATION OF VOLCANIC AND CORAL ISLANDS IN TONGA**

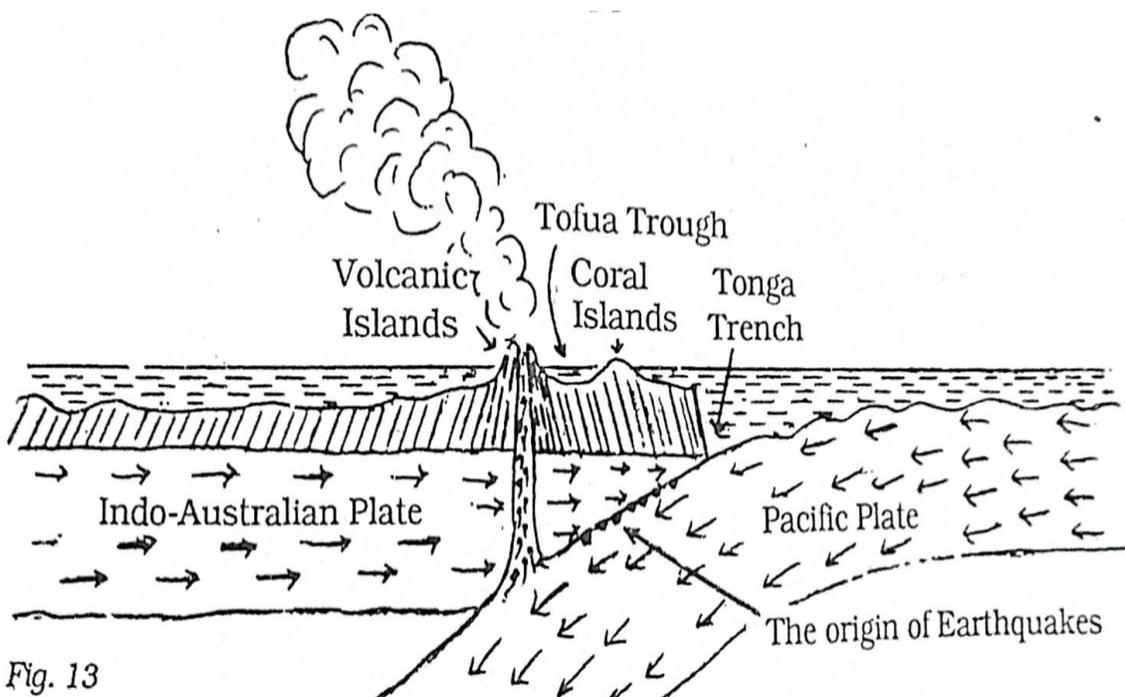


Fig. 13

## VOLCANIC ISLANDS

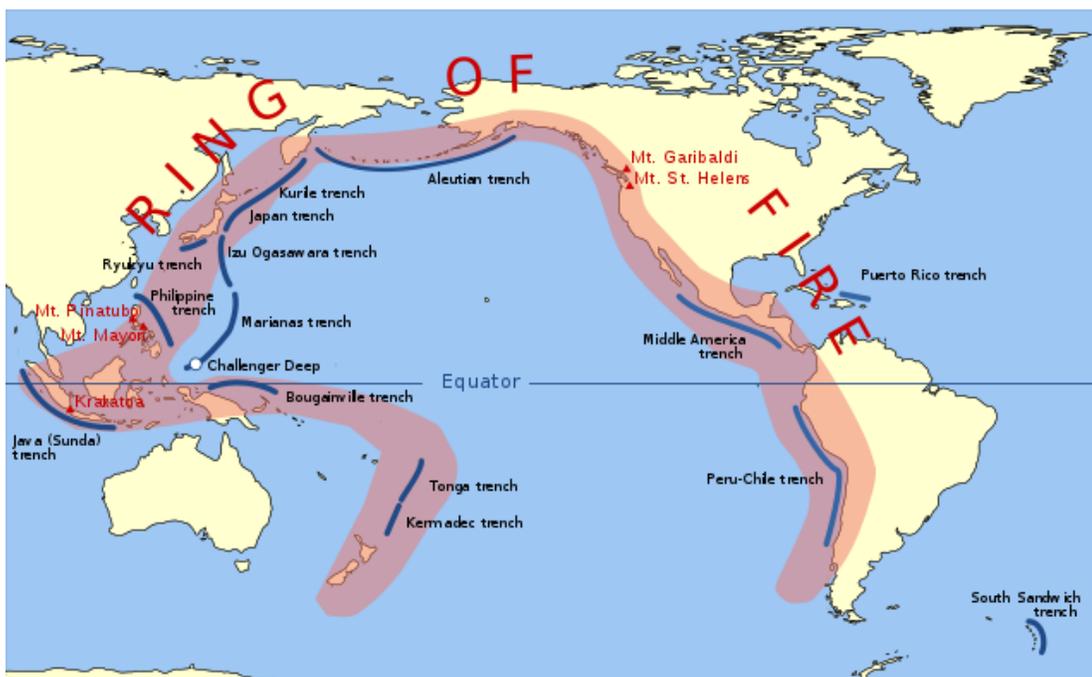
- **Indo Australian plate** and **Pacific plate** are responsible for the formation of Tonga's volcanic islands.
- They have been moving very slowly.
- These two **tectonic plates** push against each other.
- The Pacific plate which is heavier dives while the Indo Australian plate overrides.
- As the Pacific plate dives it pushes **magma** which is stored in the **magma chamber** in the **mantle**.
- This magma then slowly rises up the crust until the crust opens and releases the magma.
- If the volcano keeps erupting it will keep building upwards making a high volcano.
- The magma then turns into **lava** as it hits the Earth's surface.

## FEATURES OF A VOLCANIC ISLAND

- Are also called high islands.
- Mountains with rugged mountain tops
- Some may be active or dormant.
- Some have high cliffs
- Almost no lagoon along the coastal areas.
- Hard for ships to dock.
- Difficult to build a wharf there.

## FIERY RIM OF VOLCANOES / RING OF FIRE

- 2 of the largest plates, Pacific and Indo Australian plate meet in a line.
- This line extends from the Antarctic through New Zealand to Tonga and Samoa.
- The line then turns South West through Fiji, Vanuatu and New Caledonia.
- Then it goes North West through the Solomon Islands and New Guinea to Indonesia.
- It then extends Northwards through the Philippines to Japan then along the Aleutian Islands to Alaska.
- All along this fault line many active volcanoes have erupted (**dormant, extinct**) or are still erupting (**active**).



## **CORAL ISLANDS**

- Formed over millions of years by countless colonies of tiny organisms called **Polyps**.
- They live on the tops of undersea volcanoes or submerged ridges.
- These tiny creatures can live only in shallow, warm, clear and salty water.
- As they grow they extract salt from the sea and build it into hard outer skeletons of limestone.
- These skeletons combine to form continuous reefs.

### *FEATURES OF A CORAL ISLAND*

- There are **low** and **raised** coral islands.
- Low lying and flat surface
- Coastal areas are flat with lagoons
- Suitable for landing areas
- Easy to build wharves
- Low hills
- May have swampy areas
- Along the coast there are white sandy beaches.

**ACTIVITY 1:** Paragraph Writing. From each question that is provided below write a paragraph. Each question is 1 paragraph.

1. Discuss how volcanic islands are formed.
2. Discuss how coral islands are formed.
3. Differentiate the features of a volcanic island and coral island and its effect to people's way of living.