1. Locating the Ganges

Ganges River Map
The River Ganga with its
tributaries & distributaries
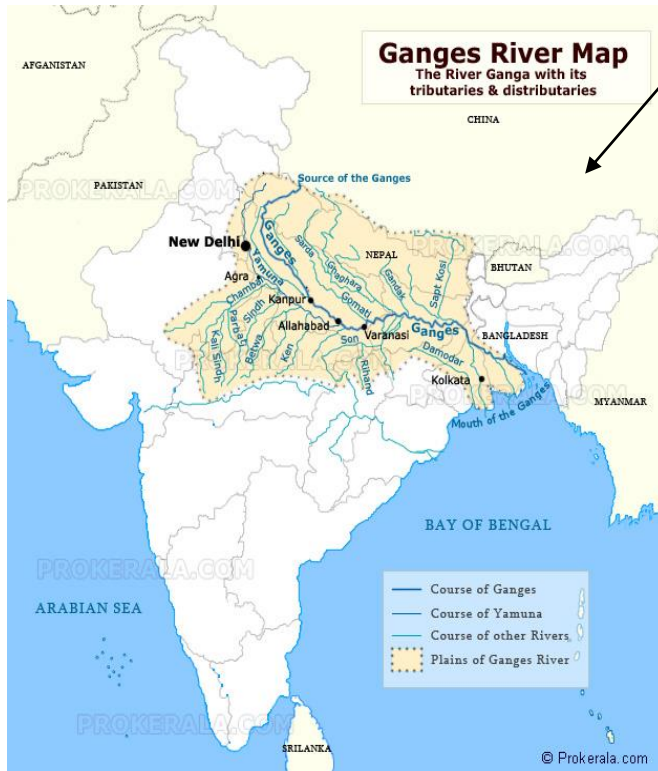
The River Ganges travels
2510km across Asia.
The **drainage basin** covers a
huge part of India, Nepal and
Bangladesh.
It splits into a number of other
rivers known as **distributaries** –
the Padma and Hooghly rivers
are the most famous.
It meets the Indian Ocean just
past Kolkata. This area is known
as the **Bay of Bengal**.

CLOCK: Describing Locations
Continent
Longitude / Latitude
Ocean / seas
Countries
Knowledge

Drainage Basin: the area in which water is collected and
drained into a single river –like a massive sink!

THE JOURNEY OF A RIVER
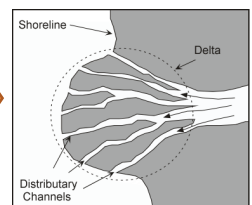
SOURCE   **UPPER COURSE**   **MIDDLE COURSE**   **LOWER COURSE**

WIDER, DEEPER, FASTER, MORE ENERGY, BIGGER LOAD

SPEAK LIKE A GEOGRAPHER:
Speed = **velocity**, volume of water in a river = **discharge**, material
carried by a river = **load**, power = **energy (kinetic)**.

2. The Upper Course of the Ganges

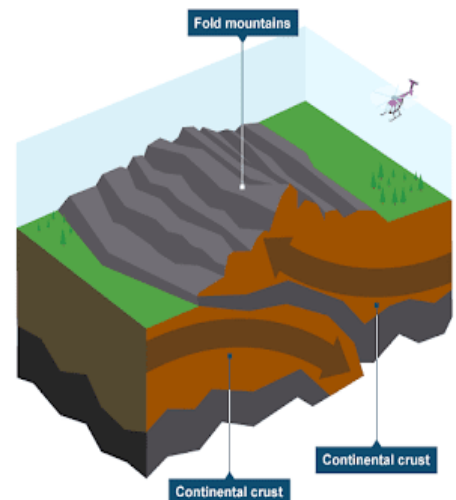**The source** of the River Ganges is believed to be Gangotri Glacier in the Himalayas.

The Himalayas are the world's tallest mountain range – passing through India, China, Nepal, Bhutan, Afghanistan and Pakistan.

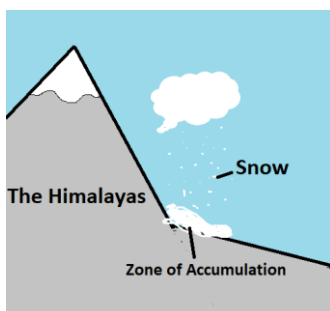They are the a great example of **fold mountains!**
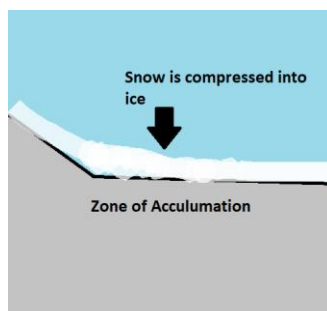

FORMATION OF FOLD MOUNTAINS

1. **Fold mountains** are formed on **a convergent plate boundary.**
2. They are formed by **continental (thick) plates.**
3. The two plates collide and are forced upwards.
4. The land above fractures and is pushed up forming a mountain range.
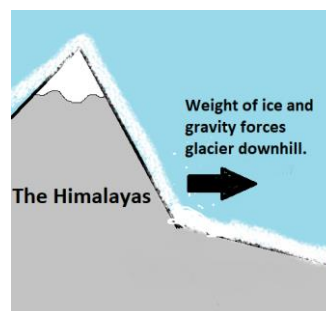5. The Himalayas was formed by the collision of the Eurasian and Indian Plates.
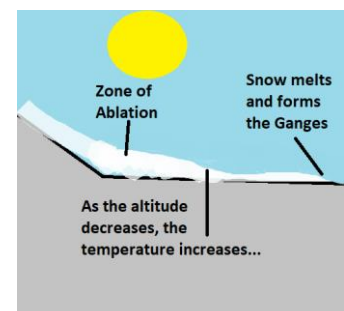

FORMATION OF GLACIERS

1. Snow collects in a hollow. It gathers quicker than it melts.

2. Snow is compressed over years into ice. This area is the **zone of accumulation.**

3. The weight the ice forces the glacier to move downhill – like a slow moving ice river.

4. At the base of the glacier, it is warmer so ice melts faster than it gathers. This is the **zone of ablation.**
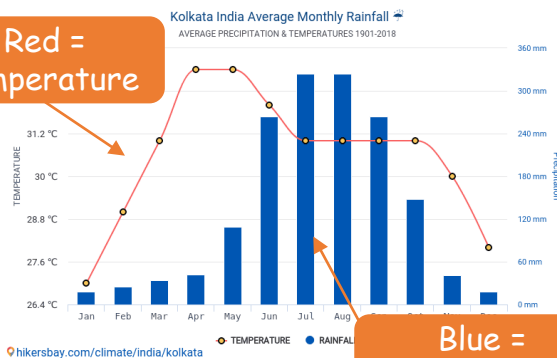
3. The Middle Course of the Ganges

Flood Plain = the flat area in the middle course of a river that spills onto during a flood.
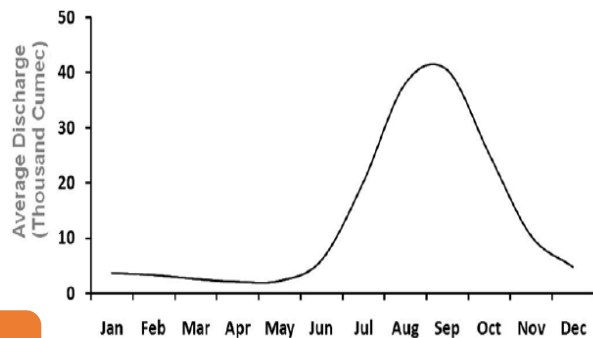
THE INDIAN MONSOON AND THE GANGES

Monsoon = a seasonal changing of the wind. Bringing a wet and a dry season to an area.

Red = temperature

Blue = precipitation

Kolkata India Average Monthly Rainfall
AVERAGE PRECIPITATION & TEMPERATURES 1901-2018

hikersbay.com/climate/india/kolkata

Over 150m people live on the Ganges' flood plain. Most are **agricultural** farmers who rely on the water to feed their crops.

The amount of water (**discharge**) in the Ganges relies on the arrival of the Indian Summer Monsoon – a warm, wet period (Jun-Oct).

The seasons are governed by the direction of the wind. If the wind blows off the sea, the air is wet. If it comes from the land, it is dry.

THE FORMATION OF A MEANDER
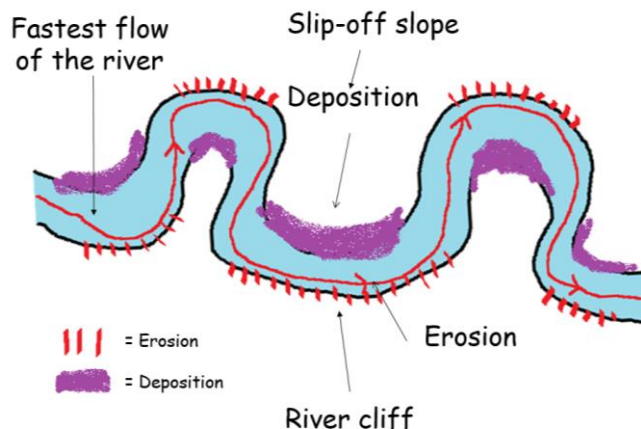
Meanders are when the river wiggles in the middle course.
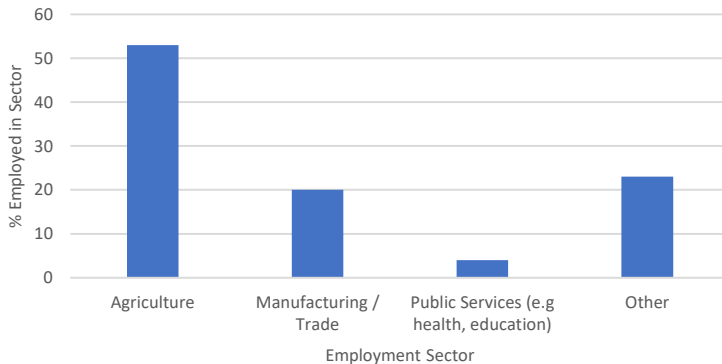
Erosion

Transportation

Deposition

Fastest flow of the river

Slip-off slope

Deposition

Erosion

| | | = Erosion

Deposition

River cliff

4. The Lower Course of the Ganges

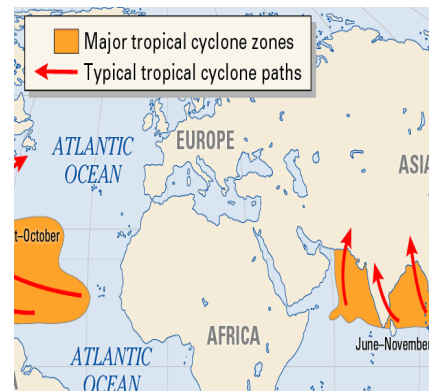A graph showing the % of workers employed in each sector in India

- Agriculture is very important to India.

- 53% of the population work in agriculture.

- However, they tend to be India's poorest workers – in rural areas.

- Agriculture only generates 18% of the country's GDP.

- More Indians are leaving farms and moving to the cities than ever before.

CLIMATE CHANGE AND THE GANGES

The Indian Monsoon is caused by the **difference** in **temperature** between the ocean and the land.

With warming oceans, this difference is changing – making the Summer Monsoon more *unpredictable*. This causes a huge problem for the farmers.

- The Ganges Flood Basin is extremely low-lying as shown by the **relief map** on the left.

- Major cities such as Kolkata sit on the flood-plains of multiple rivers- making them **vulnerable** to flooding.

- With more intense **tropical-cyclones** (due to climate change), this area is at risk of flooding.

- People are talking about '**climate refugees**' – people having to move home due to climate change.

GSE: DESCRIBING A PATTERN ON A GRAPH OR MAP

Generally, -

Specifically,

Exceptions include: