

## **DRAINAGE SYSTEM OF INDIA**

- A drainage system is an integrated system of tributaries and a trunk stream which collects and drains surface water into the sea, lake or some other body of water.
- The drainage system of India is broadly divided into two major groups on the basis of their location. They are Himalayan Rivers and the Peninsular Rivers.
- The river system provides irrigation, drinking water, navigation, power as well as grants livelihoods for a large number of populations.
- **Perennial Rivers:** The rivers which flow throughout the year and have permanent source of water.
- The Indus River system, the Ganga River system and the Brahmaputra River system have made the agricultural lands of north India as fertile land. These rivers are perennial in nature.
- Narmada, Tapti, Mahi and Sabarmati rivers confluence with the Arabian Sea.
- Mahanadi, Godavari, Krishna and Cauvery are the major east flowing rivers and drain into Bay of Bengal.

### **The Himalayan Rivers**

- The major Himalayan Rivers are the Indus, the Ganga and the Brahmaputra.
- These rivers are long, and are joined by many large and important tributaries.
- Perennial in nature.

### **The Indus River System**

- The river Indus rises in Tibet, near Lake Mansarovar. Flowing west, it enters India in the Ladakh district of Jammu and Kashmir.
- Its length is about 2,880 km (Only 709 km is in India).
- Its major tributaries are Jhelum, Chenab (Largest tributary of Indus), Ravi, Beas and Sutlej. It enters into with the Arabian Sea.

### **The Ganga River System**

- The Ganga River system is the largest drainage system of India. It extends over an area of 8,61,404 sq km in India.
- The river Ganga originates as Bhagirathi from the Gangotri Glacier in Uttar Khasi District of Uttarakhand state, at an elevation of 7,010 m.
- The length of the river Ganga is about 2,525 km.
- Its major tributaries from the north are Gomti, Gandak, Kosi and Ghaghra and from south, Yamuna (largest tributary of Ganga), Son, Chambal etc.
- The river Yamuna rises from the Yamunotri Glacier in the Himalayas. It flows parallel to the Ganga and as a right bank tributary, meets the Ganga at Allahabad.

- The Ganga flows eastwards till Farakka in West Bengal. This is the northernmost point of the Ganga delta. The river bifurcates here; the Bhagirathi-Hooghly (a distributary) flows southwards through the deltaic plains to the Bay of Bengal.
- The river Ganga is known as the River Padma in Bangladesh.
- The combined river of Ganga and Brahmaputra creates the World's largest delta known as Sundarbans in Bangladesh before joining the Bay of Bengal

### The Brahmaputra River System

- The river Brahmaputra originates from the Chemayungdung Glacier of the Kailash range to the east of Lake Manasarovar in Tibet at an elevation of about 5,150 m.
- This river is known as Tsangpo (Purifier) in Tibet.
- The length of this river is about 2,900 km (900 km in India).
- It enters into India through a gorge in Arunachal Pradesh namely Dihang. It has many tributaries. Tista, Manas, Barak, Subansiri are some of them.
- This river is called as Jamuna in Bangladesh. After it joins with the river Ganga in Bangladesh, the river is called as Meghna.

### Peninsular Rivers

- The rivers in south India are called the Peninsular Rivers. Most of these rivers originate from the Western Ghats. These are seasonal rivers (non-perennial).
- Based on the direction of flow, the peninsular rivers are divided into the West flowing and East flowing rivers.

### West Flowing Rivers

#### Narmada

- The Narmada rises in the Amarkantak hills in Madhya Pradesh and flows for a distance of about 1,312 km. It flows towards the west in a rift valley formed due to faulting.
- It covers an area of 98,796 sq km and forms 27 km long estuary before out falling into the Arabian Sea through the Gulf of Cambay.
- It is the largest among the west flowing rivers of Peninsular India.
- Its principal tributaries are Burhner, Halon, Heran, Banjar, Dudhi, Shakkar, Tawa, Barna and Kolar.

#### Tapti

- The Tapti is one of the major rivers of Peninsular India with the length of about 724 km. It outfalls into the Arabian Sea through the Gulf of Cambay.
- Tapti River rises near Multai in the Betul district of Madhya Pradesh at an elevation of about 752 m.
- It is one of only the three rivers in Peninsular India that runs from east to west - the others being the Narmada and the Mahi.
- The major tributaries are Vaki, Gomai, Arunavati, Aner, Nesu, Buray, Panjhra and Bori.

## East Flowing Rivers

### The Mahanadi Basin

- The river Mahanadi originates near Sihawa in Raipur district of Chhattisgarh and flows through Odisha. Its length is 860 km.
- The main stream of Mahanadi gets divided into several distributaries such as Paika, Birupa, Chitartala, Genguti and Nun.
- The Mahanadi empties its water in Bay of Bengal.

### The Godavari Basin

- The Godavari is the largest Peninsular River. It is also known as the 'Dakshin Ganga'.
- It rises from the slopes of the Western Ghats in the Nasik district of Maharashtra.
- Its length is about 1500 km. It drains into the Bay of Bengal.
- Kolleru, a fresh water lake is located in the deltaic region of the Godavari.

### The Krishna Basin

- Rising from a spring near Mahabaleshwar in the Western Ghats of Maharashtra, the Krishna flows for about 1400 km and reaches the Bay of Bengal.
- It is the second longest Peninsular River.
- Bhima, Peddavagu, Musi, Koyna and Tungabhadra are the major tributaries of this river.

### The Kaveri Basin

- The river Kaveri originates at Talakaveri, Kudagu hills of Karnataka and it reaches the Bay of Bengal. Its length is 760 km.
- Its main tributaries are Amravati, Bhavani, Hemavati and Kabini.

## List of Indian Rivers and their Place of Origin

River	Place of Origin	Falls into
Ganga	Gangotri (Uttarakhand)	Bay of Bengal
Sutlej	Lake Rakshastal in Tibet	Chenab
Indus	Indus rises in Tibet, near Lake Mansarowar	Arabian Sea
Jhelum	Verinag Spring	Chenab
Yamuna	Yamunotri (Uttarakhand)	Ganga
Narmada	Maikal Hills, Amarkantak (MP)	Gulf of Khambat
Tapti	Satpura Range, Betul (MP)	Gulf of Khambat
Mahanadi	Nagri Town (Chhattisgarh)	Bay of Bengal
Brahmaputra	Chemayungdung (Tibet)	Bay of Bengal
Sutlej	Mt Kailash (Tibet)	Chenab

Beas	Rohtang Pass (Himachal Pradesh)	Satluj
Godavari	Nasik (Maharashtra)	Bay of Bengal
Krishna	Mahabaleshwar (Maharashtra)	Bay of Bengal
Cauvery	Brahmagiri Hills, Coorg (Karnataka)	Bay of Bengal
Sabarmati	Udaipur, Aravalli Hills (Rajasthan)	Arabian Sea
Ravi	Chamba (Himachal Pradesh)	Chenab
Tungabhadra	Koodli	Krishna River
Pennar	Nandi Hills, Chickballapur (Karnataka)	Bay of Bengal
Luni	Pushkar, Aravalli Hills (Rajasthan)	Rann of Kachchh
Chambal	Janapav, Indore, Vindhya (MP)	Yamuna

### List Of Dams in India

Dam	River	State
Sardar Sarovar Dam	Narmada	Gujarat
Srisailem Dam	Krishna	Telangana
RanjitSagar Dam	Ravi	Punjab
Koteshwar Dam	Bhagirathi	Uttarakhand
Gandhi Sagar Dam	Chambal	Madhya Pradesh
Omkareshwar Dam	Narmada	Madhya Pradesh
Mullaperiyar Dam	Periyar	Kerala (Idukki district)
NagarjunaSagar Dam	Krishna	Telangana/Andhra Pradesh
Baglihar Dam	Chenab	Jammu & Kashmir
Salal Dam	Chenab	Jammu & Kashmir
Tehri Dam	Bhagirathi	Uttarakhand
Uri Dam	Jhelum	Jammu & Kashmir
Indira Sagar Dam	Narmada	Madhya Pradesh
Rihand Dam	Rihand	Uttar Pradesh
Ukai Dam	Tapi	Gujarat
Bhakra Dam	Sutlej	Himachal Pradesh
Lakhwar Dam	Yamuna	Uttarakhand
Hirakud Dam	Mahanadi	Odisha
Rana Pratap Sagar Dam	Chambal	Rajasthan
Jawahar Sagar Dam	Chambal	Rajasthan

## List of Lakes in India

- Largest freshwater lakes in Asia & India – Wular Lake, Kashmir
- Largest artificial lake in Asia – Govind Vallabh Pant Sagar (Rihand Dam)
- Largest saline water lake in India – Chilika Lake, Orissa
- Longest lake in India – Vembanad, Kerala
- Highest Lake in India – Cholamu Lake, Sikkim
- The Sambhar Lake in Rajasthan is a salt water lake

State	Name of the Lake
Andhra Pradesh	Kolleru Lake, Pulicat Lake
Assam	Deepor Beel Lake, Haflong Lake, Son Beel Lake
Bihar	Kanwar Lake
Gujarat	Hamirsar Lake, Kankaria Lake, Nal Sarovar Lake, Narayan Sarovar, Thol Lake, Vastrapur Lake, Lakhota Lake, Sursagar Lake
Haryana	Badkhal Lake, Karna Lake, Surajkund Lake, Tilyar Lake, Blue Bird Lake
Himachal Pradesh	Brighu Lake, Dashir Lake, Dhankar, Lake Kareri (Kumarwah) Lake, Khajjiar Lake, Macchial Lake, Maharana Pratap Sagar Lake, Manimahesh Lake, Nako Lake, Pandoh Lake, Renuka Lake, Rewalsar Lake, Seruvalsar Lake, Manimahesh Lake, Suraj Taal Lake
Jammu and Kashmir	Dal Lake, Wular Lake, Manasbal Lake, Mansar Lake, Sheshnag Lake
Karnataka	Lalbagh Lake, Puttenahalli Lake, Madiwala Lake, Agara Lake, Karanji Lake, Kukkarahalli Lake, Lingambudhi Lake, Pampa Sarovar Lake
Kerala	Vembanad Lake, Shasthamkotta Lake, Vellayani Lake
Madhya Pradesh	Moti lake, Sarang pani Lake, Shahpura lake, Tawa Reservoir, Upper Lake
Maharashtra	Gorewada Lake, Khindsi Lake, Lonar Lake, Mehrun Lake, Pashan Lake Powai Lake, Rankala Lake, Salim Ali Lake
Meghalaya	Umiam Lake

Manipur	Loktak Lake
Mizoram	Palak Dil, Tam Dil
Odisha	Anshupa Lake, Chilika Lake, Kanjia lake
Punjab	Harike Lake, Kanjli Lake, Ropar Lake
Rajasthan	Talwara Lake, Sambhar Salt Lake, Fateh Sagar Lake, Rangsagar Lake, Uday sagar Lake, Nakki Lake
Sikkim	Gurudongmar Lake, Khecheopalri Lake, Lake Tsongmo, Lake Cholamu
Telangana	Durgam Cheruvu (Secret Lake), Himayat Sagar
Tamil Nadu	Berijam Lake, Chembarambakkam Lake, Kaliveli Lake, Kaveripakkam Lake, Kodaikanal Lake, Ooty Lake
Uttarakhand	Skeleton Lake (Roopkund Lake), Bhimtal Lake, Dodital Nainital Lake, Naukuchiatal, Sat Tal
West Bengal	Santragachhi Lake, Senchal Lake, Rabindra Sarobar