Compilation of Rivers
www.onlyias.in
Mahanadi River

**Source:** Danadkarnya

**Left bank:** Sheonath, Hasdo and Mand

**Right bank:** Tel, Jonk, Ong

**Hirakund dam**

**Olive Ridley Turtles:** Gahirmatha beach, Orissa: Nesting turtles

River flows through the states of **Chhattisgarh and Odisha.**

River Ends in **Bay of Bengal**
• The Mahanadi basin extends over states of Chhattisgarh and Odisha and comparatively smaller portions of Jharkhand, Maharashtra and Madhya Pradesh, draining an area of 1.4 lakh Sq.km.

• It is bounded by the Central India hills on the north, by the Eastern Ghats on the south and east and by the Maikala range on the west.

• The Mahanadi (“Great River”) follows a total course of 560 miles (900 km).

• It has its source in the northern foothills of Dandakaranya in Raipur District of Chhattisgarh at an elevation of 442 m.

• The Mahanadi is one of the major rivers of the peninsular rivers, in water potential and flood producing capacity, it ranks second to the Godavari.
• Other small streams between the Mahanadi and the Rushikulya draining directly into the Chilka Lake also forms the part of the basin.
• After receiving the Seonath River, it turns east and enters Odisha state.
• At Sambalpur the Hirakud Dam (one of the largest dams in India) on the river has formed a man-made lake 35 miles (55 km) long.

• It enters the Odisha plains near Cuttack and enters the Bay of Bengal at False Point by several channels.
• Puri, at one of its mouths, is a famous pilgrimage site.
Tributaries of Mahanadi River

- Its upper course lies in the saucer-shaped basin called the ‘Chhattisgarh Plain’.
- This basin is surrounded by hills on the north, west and south as a result of which a large number of tributaries join the main river from these sides.
  - **Left bank Tributaries**: The Seonath, the Hasdeo, the Mand and the Ib.
  - **Right bank Tributaries**: The Ong, the Tel and the Jonk
River Bhavani

- **Bhavani River**, is a **tributary** of the **River Cauvery** originating from the South West Corner of the Nilgiri hills of the Western Ghats in Tamil Nadu.
- It drains **Tamil Nadu**, **Kerala** and **Karnataka**.
- It is the **second longest river** in Tamil Nadu.
- It enters Kerala through Palakkad district.
- It passes through the **Silent Valley National Park** in Kerala.
- Twelve major rivulets including West and East Varagar rivers join **Bhavani** draining the southern Nilgiri slopes.
The Subarnarekha originates from the Ranchi Plateau in Jharkhand forming the boundary between West Bengal and Odisha in its lower course.

It joins Bay of Bengal forming an estuary between the Ganga and Mahanadi deltas.

It flows through the Indian states of Jharkhand, West Bengal and Odisha.

Its total length is 395 km.

Tributaries

The prominent tributaries of the Subarnarekha are Kharkai, Roro, Kanchi, Harmu Nadi, Damra, Karru, Chinguru, Karakari, Gurma, Garra, Singaduba, Kodia, Dulunga and Khaijori.
• The **Kharkai meets the Subarnarekha at Sonari** (Domuhani), a neighborhood of **Jamshedpur**

• **Fishing** at Subarnarekha river **near Domohani** (confluence of Subarnarekha and Kharkhai)

➢ **Hundru Falls**

• Hundru Falls is created on the **course of the Subarnarekha**, where it falls from a **height of 98 metres** (322 ft)
The Brahmani river comes into existence by the confluence of the Koel and the Sankh rivers near Rourkela.

It has a total length of 800 km.

Brahmani is a major seasonal river in the Odisha state of Eastern India.

The basin is bounded in the North by Chhotanagpur plateau, in the West and South by the Mahanadi basin and in the East by the Bay of Bengal.

The basin flows through Jharkhand, Chhattisgarh and Orissa States and drains into Bay of Bengal.

Brahmani is the second longest river in Orissa after the Mahanadi.
Rengali Dam

- Rengali dam is located in **Odisha**.
- It is **constructed** across **Brahmani River** in **Rengali Dam** located **70 km** from **Angul** & **65 km** from **Deogarh, Odisha** in India.
- Apart from the Rengali dam, there also **exists** a **barrage** shortly before Talcher called **Samal Barrage**.
- The **Jokadia** and the **Jenapur anicuts** are the other **irrigation projects** on the river.
Baitarani River

- Baitarani is one of the important east flowing rivers of peninsular India, flowing eastward and joining the Bay of Bengal.
- River Baitarani is one of six major rivers of Odisha, India.
- Major portion of its catchment lies in the state of Orissa and a small patch of the upper reach falls in Jharkhand.
- The river originates from the hill ranges of Keonjhar district of Orissa near Mankarancho village at an elevation of about 900 meter.

- The basin is surrounded by
  - Brahmani basin on the South and West,
  - Subarnarekha basin on the North,
  - Burhabalang and Bay of Bengal on the east.
• The river is flashy in nature having a total length of 355 km.
• There is a considerable fall in elevation from RL 367m at Champua to RL 28m at Anandpur.
• Flooding is a regular phenomenon in the Baitarani basin.
• State-wise distribution of the catchment area is shown below

State-wise Catchment area distribution

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of State</th>
<th>Catchment Area (sq.km)</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jharkhand</td>
<td>736</td>
<td>6.7</td>
</tr>
<tr>
<td>2.</td>
<td>Orissa</td>
<td>10,246</td>
<td>93.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>10,982</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baitarani River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country State</td>
</tr>
<tr>
<td>Source</td>
</tr>
<tr>
<td>Mouth</td>
</tr>
<tr>
<td>Length</td>
</tr>
<tr>
<td>Discharge</td>
</tr>
</tbody>
</table>
• Baitarani river forms boundary between Odisha and ___ state?

[A] Jharkand  
[B] Maharastra  
[C] Chattisgarh  
[D] Andra Pradesh
• Baitarani river forms boundary between Odisha and ___ state?
[A] Jharkand
[B] Maharastra
[C] Chattisgarh
[D] Andra Pradesh

• Answer:-
• [A] Jharkand

• The Baitarani originates in the Guptaganga hills, the beginning portion of the river acts as the boundary between Orissa and Jharkand.
• Damodar river **rises in the hills** of the **Chotanagpur plateau** and flows through a **rift valley**.

• Damodar River is a river flowing across the Indian states of **Jharkhand** and **West Bengal**.

• Damodar River is known as **Damuda**.

• The **word damu** stands for holy and da **signifies water**.

• Rich in **mineral resources**, the valley is home to **large-scale mining and industrial activity**.

• It has a number of **tributaries** and **subtributaries**, such as **Barakar, Konar, Bokaro, Haharo**, etc.

• The **Barakar** is the most **important tributary** of the Damodar.
Several dams have been constructed in the valley, for the generation of hydroelectric power.

The valley is called “the Ruhr of India”.

The first dam was built across the Barakar River, a tributary of the Damodar river.

It used to cause devastating floods as a result of which it earned the name ‘Sorrow of Bengal’.

Now the river is tamed by constructing numerous dams.

It joins the Hugli River 48 km below Kolkata.

The total length of the river is 541 km
Tributaries of Damodar

The tributaries and subtributaries of the Damodar include the following:

- Konar
- Barakar
- Haharo
- Bokaro
- Ghari
- Jamunia
- Khadia
- Guaia
- Bhera
Damodar river

Himalayas

Deccan Plateau

Thar Desert

Aravalli

Vindhya

Satpuras

Chota Nagpur

Rann of Kutch

Western Ghats

Eastern Ghats

Sundarbans

Lakshadweep Is.

Nilgiris

Andaman and Nicobar Is.
Que. **East flowing rivers are**

A. Subarnarekha  
B. Damodar  
C. Mahanadi  
D. All
Que. **East flowing rivers are**

A. Subarnarekha  
B. Damodar  
C. Mahanadi  
D. All

**Answer** -> D
The **Godavari** is the **largest river system** of the **Peninsular India** and is revered as **Dakshina Ganga**.

The **Godavari basin** extends over states of Maharashtra, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry (Yanam) having a **total area** of 3 lakh Sq.km.

The basin is bounded by Satmala hills, the Ajanta range and the Mahadeo hills on the north, by the Eastern Ghats on the south and the east and by the Western Ghats on the west.

Godavari River rises from **Trimbakeshwar** in the **Nashik district** of Maharashtra about **80 km** from Arabian Sea at an **elevation** of **1,067 m**.

The **total length** of Godavari from its origin to outfall into the **Bay of Bengal** is **1,465 km**.
The left bank tributaries are more in number and larger in size than the right bank tributaries.

The **Manjra (724 km)** is the only important **Right Bank Tributary**, joins the Godavari after passing through the Nizam Sagar.

**Left Bank Tributaries**: Dharna, Penganga, Wainganga, Wardha, Pranahita [conveying the combined waters of Penganga, the Wardha and Wainganga], Pench, Kanhan, Sabari, Indravati etc.

**Right Bank Tributaries**: Pravara, Mula, Manjra, Peddavagu, Maner etc.

Below Rajahmundry, the river divides itself into two main streams, the Gautami Godavari on the east and the Vashishta Godavari on the west and forms a large delta before it pours into the Bay of Bengal.

The delta of the Godavari is of lobate type with a round bulge and many distributaries.
Projects on Godavari River

- Important projects completed during the plan period are **Srirama Sagar, Godavari barrage, Upper Penganga, Jaikwadi, Upper Wainganga, Upper Indravati, Upper Wardha**.

- Among the **on-going projects**, the prominent ones are **Prnhita-Chevala** and **Polavaram**.

Floods and Droughts in Godavari Basin

- **Godavari basin** faces **flooding problem** in its lower reaches.
- The coastal areas are **cyclone-prone**.
- The delta areas face **drainage congestion** due to flat topography.
- A **large portion of Maharashtra falling** (Marathwada) in the basin is **drought prone**.
The Krishna is the second largest east flowing river of the Peninsula.

The Krishna Basin extends over Andhra Pradesh, Maharashtra and Karnataka having a total area of ~2.6 lakh Sq.km.

It is bounded by Balaghat range on the north, by the Eastern Ghats on the south and the east and by the Western Ghats on the west.

The Krishna River rises from the Western Ghats near Jor village of Satara district of Maharashtra at an altitude of 1,337 m just north of Mahabaleshwar.

The total length of river from origin to its outfall into the Bay of Bengal is 1,400 km.
Krishna River

- The major part of basin is covered with **agricultural land** accounting to 75.86% of the **total area**.

- The **Krishna** forms a **large delta** with a **shoreline of about 120 km**.

- The **Krishna delta** appears to **merge** with that **formed** by the **Godavari** and **extends about 35 km into the sea**.
Tributaries of Krishna River

- **Right bank**: the Ghatprabha, the Malprabha and the Tungabhadra.
- **Left Bank**: the Bhima, the Musi and the Munneru.

- The **Koyna** is a small tributary but is known for **Koyna Dam**. This dam was perhaps the main cause of the devastating **earthquake** (6.4 on richter scale) in 1967 that killed 150 people.

- The **Bhima** originates from the **Matheron Hills** and joins the Krishna near Raichur after for a distance of 861 km.

- The **Tungabhadra** is formed by the unification of the **Tunga** and the **Bhadra** originating from **Gangamula** in the **Central Sahyadri**. Its total length is 531 km.

- At Wazirabad, it receives its last important tributary, the **Musi**, on whose banks the city of Hyderabad is located.
• **Projects on Krishna River**
  • Important ones are the Tungabhadra, Ghataprabha, Nagarjunasagar, Malaprabha, Bhima, Bhadra and Telugu Ganga.
  • The major Hydro Power stations in the basin are Koyna, Tungabhadara, Sri Sailam, Nagarjuna Sagar, Almatti, Naryanpur, Bhadra.

• **Industry in Krishna Basin**
  • The major Urban Centers in the Basin are Pune, Hyderabad.
  • Hyderabad is the state capital of Telangana and is now a major IT hub.
  • Pune in Maharashtra has number of automobile and IT industry and is major education centre.
The **Pennar** (also known as **Uttara Pinakini**) is one of the **major rivers** of the **peninsula**.

Pennar **rises** in the **Chenna Kasava hill** of the **Nandidurg range**, in **Chikkaballapura district** of **Karnataka** and flows towards **east** eventually draining into the **Bay of Bengal**.

The **total length** of the river from **origin** to its **outfall** in the **Bay of Bengal** is **597 km**.

Located in **peninsular India**, the Pennar basin extends over states of **Andhra Pradesh** and **Karnataka** having an area of ~**55 thousand Sq.km**.
The fan shaped basin is bounded by the Erramala range on the north, by the Nallamala and Velikondaranges of the Eastern Ghats on the east, by the Nandidurg hills on the south and by the narrow ridge separating it from the Vedavati valley of the Krishna Basin on the west.

The other hill ranges in the basin to the south of the river are the Seshachalam [famous for Red Sanders] and Paliconda ranges.

The major part of basin is covered with agriculture accounting to 58.64% of the total area.
Tributaries of Pennar River

- **Left Bank**: the [Jayamangali](#), the [Kunderu](#) and the

- **Right bank**: the [Chiravati](#), the [Papagni](#) etc.
Projects on Pennar River

- **Tungabhadra high level canal** in Krishna basin irrigated areas in Pennar basin also.

- The **only major project** in the basin is the **Somasila Project**.
Kaveri (Cauvery) is designated as the ‘Dakshina Ganga’ or ‘Ganga of the South’.

Cauvery River rises at an elevation of 1,341 m at Talakaveri on the Brahmagiri range near Cherangala village of Kodagu (Coorg) district of Karnataka.

The total length of the river from origin to outfall is 800 km.

Cauvery basin extends over states of Tamil Nadu, Karnataka, Kerala and Union Territory of Puducherry draining an area of 81 thousand Sq.km.
• It is bounded by the Western Ghats on the west, by the Eastern Ghats on the east and the south and by the ridges separating it from Krishna basin and Pennar basin on the north.

• Physiographically, the basin can be divided into three parts – the Westen Ghats, the Plateau of Mysore and the Delta.

• The delta area is the most fertile tract in the basin.

• Red soils occupy large areas in the basin. Alluvial soils are found in the delta areas.

• The basin in Karnataka receives rainfall mainly from the S-W Monsoon and partially from N-E Monsoon.

• The basin in Tamil Nadu receives good flows from the North-East Monsoon.
Cauvery River

• Its upper catchment area receives rainfall during summer by the south-west monsoon and the lower catchment area during winter season by the retreating north-east monsoon.

• It is, therefore almost a perennial river with comparatively less fluctuations in flow and is very useful for irrigation and hydroelectric power generation.

• Thus the Cauvery is one of the best regulated rivers and 90 to 95 % of its irrigation and power production potential already stands harnessed.

• The river drains into the Bay of Bengal.

• The major part of basin is covered with agricultural land accounting to 66.21% of the total area.
Tributaries of the Cauvery River

- **Left Bank**: the Harangi, the Hemavati, the Shimsha and the Arkavati.
- **Right Bank**: Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati joins from right.

- The river descends from the South Karnataka Plateau to the Tamil Nadu Plains through the Sivasamudram waterfalls (101 m high).

- At Shivasamudram, the river branches off into two parts and falls through a height of 91 m. in a series of falls and rapids.
- The falls at this point is utilized for power generation by the power station at Shivasamudram.
Tributaries of the Cauvery River

• The two branches of the river join after the fall and flow through a wide gorge which is known as ‘Mekedatu’ (Goats leap) and continues its journey to form the boundary between Karnataka and Tamil Nadu States for a distance of 64 km.

• At Hogennekkal Falls, it takes Southerly direction and enters the Mettur Reservoir.

• A tributary called Bhavani joins Cauvery on the Right bank about 45 Kms below Mettur Reservoir.

• Thereafter it enters the plains of Tamil Nadu.
Tributaries of the Cauvery River

• Two more tributaries Noyil and Amaravathi join on the right bank and here the river widens with sandy bed and flows as ‘Akhanda Cauvery’.

• After crossing Tiruchirapalli district, the river divides into two parts, the Northern branch being called ‘The Coleron’ and Southern branch remains as Cauvery and from here the Cauvery Delta begins.

• After flowing for about 16 Kms, the two branches join again to form ‘Srirangam Island’.

• On the Cauvery branch lies the “Grand Anicut” said to have been constructed by a Chola King in 1st Century A.D.
Floods in Cauvery Basin

- The Cauvery basin is fan shaped in Karnataka and leaf shaped in Tamil Nadu. The run-off does not drain off quickly because of its shape and therefore no fast raising floods occur in the basin.

Projects on Cauvery River

- During the pre-plan period many projects were completed in this basin which included Krishnarajasagar in Karnataka, Mettur dam and Cauvery delta system in Tamil Nadu.

- Lower Bhavani, Hemavati, Harangi, Kabini are important projects completed during the plan period.
In which of the following regions of India are shale gas resources found?
1. Cambay Basin
2. Cauvery Basin
3. Krishna-Godavari Basin
Select the correct answer using the code given below. (UPSC 2016)

A. 1 and 2 only
B. 3 only
C. 2 and 3 only
D. 1, 2 and 3
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C. 2 and 3 only
D. 1, 2 and 3 ✓
The Ponnaiyar is a small stream which is confined to the coastal area only.

It covers a small area in the state of Tamil Nadu, Karnataka and Andhra Pradesh.

The river originates in the Nandi Hills in the Chikkaballapura district of Karnataka and flows through Tamil Nadu before emptying into the Bay of Bengal.
Ponnaiyar River

• It has a catchment area of **1,424 square miles** (3,690 km²) located in Karnataka, Tamil Nadu and Andhra Pradesh states.

• Small dams of Kelavarapalli and Krishnagiri dams are built across this river near Hosur and Krishnagiri.

• The largest dam on this river, Sathanur Dam with 7.3 Tmcft Gross Capacity is built near Tiruvannamalai.

• Ponnaiyar Basin is bounded on the North-West and South by various ranges of the Eastern Ghats like the Velikonda Range, the Nagari hills, the Javadu hills, the Shevaroy hills, the Chitteri hills and the Kalrayan hills and in the East by the Bay of Bengal.
Sathanur Dam
• Vaigai is a river in Theni, Andipatti and Madurai, Tamil Nadu state of Southern India.

• It originates in Varusanadu Hills, the Periyar Plateau of the Western Ghats range, and flows northeast through the Kambam Valley, which lies between the Palni Hills to the North and the Varushanad Hills to the South.

• The Vattaparai Falls are located on this river.
South of the Cauvery delta, there are several streams, of which the Vaigai is the longest.

The Vaigai Basin is an important basin among the 12 basins lying between the Cauvery and Kanyakumari.

Vaigai is 258 kilometres (160 mi) long, with a drainage basin 7,031 square kilometres (2,715 sq mi) large.

Vaigai drains an area of 7,741 Sq.Km, which entirely lies in the state of Tamil Nadu.
The main tributaries of the river Vaigai are, the river Suruliyaru, the river Mullaiyaaru, the river Varaganadi, the river Manjalaru and river Kridhumaal.

All these rivers, except Kridhumaal join with the great Vaigai river nearer to the places around the Vaigai Dam which is situated in Theni district, whereas Kridhumaal joins Vaigai in Madurai.
Vaigai River in Madurai, Tamil Nadu
• **Vaigai** is a river in **Theni, Andipatti** and **Madurai, Tamil Nadu** state of **Southern India**.

• It originates in **Varusanadu Hills**, the **Periyar Plateau** of the **Western Ghats** range, and **flows** northeast through the **Kambam Valley**, which lies between the **Palni Hills to the North** and the **Varushanad Hills to the South**.

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Tributaries of Vaigai River

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- All these rivers, except Kridhumaal join with the great Vaigai river nearer to the places around the Vaigai Dam which is situated in Theni district, whereas Kridhumaal joins Vaigai in Madurai.
Vaigai River in Madurai, Tamil Nadu
• Rushikulya River is one of the major rivers in the state of Odisha and covers entire catchment area in the districts of Kandhamal and Ganjam district of Odisha.

• Source: Nayagarh hills

• Mouth known for: Hatching site of Olive ridley turtles
• Rushikulya originates at an elevation of about 1000 metres from Daringbadi hills of the Eastern Ghats range.

• The place from where the river originates, Daringbadi is called the ‘Kashmir of Odisha’.

• It meets the Bay of Bengal at Puruna Bandha in Ganjam.

• Its tributaries are the Baghua, the Dhanei, the Badanadi etc.

• It has no delta as such at its mouth.
Olive Ridley turtles

• The **smallest and most abundant** of all sea turtles found in the world

• They **live in warm waters** of the Pacific, Atlantic and Indian oceans.

• Olive ridley turtles IUCN status—“endangered”
Olive Ridley turtles on Odisha coast

• Known for their unique mass nesting called “Arribada”= thousands of females come together on the same beach to lay eggs.

• Orissa coast is the largest mass hatching site of Olive ridley turtle in the world.
Periyar River

- It is **West Flowing Peninsular** river.
- Periyar is the **longest river** and the river with the **largest discharge potential** in the Indian **State of Kerala**.
- It is one of the few perennial rivers in the region and **provides Drinking Water** for several major towns.
- The **Periyar** is of **utmost significance** to the economy of Kerala.
- It generates a significant proportion of Kerala's **electrical power** via the **Idukki Dam** and flows along a region of **industrial and commercial activity**.
Periyar River

- Periyar has a **Total Length** of approximately 244 Kilometres.
- Periyar basin spreads over an area of 5,398 square kilometres (2,084 sq mi), most of it in **central Kerala**.

- The river drains parts of **Idukki**, **Ernakulam** and **Thrissur districts** in Kerala and **Coimbatore district** in Tamil Nadu.

- The **source** of the Periyar lies high in the Western Ghats.
• It is variously claimed to be located in Kerala and in the neighbouring state of Tamil Nadu.

• The source of the river lies in the remote forests of the Periyar Tiger Reserve.

• Various sources indicate the origin of the river to be Chokkampatti Mala, peak on the southern boundary of the Periyar Tiger Reserve.
**Tributaries**

- **Major tributaries are:**
  1. Muthirapuzha River
  2. Mullayar River
  3. Cheruthoni River
  4. Perinjankutti River
  5. Edamala River

- **Minor tributaries are:**
  1. Muthayar
  2. Perunthuraiar,
  3. Chinnar
  4. Cheruthony
  5. Kattappanayar
Pamba River

- **Pampa** is the **third longest river in Kerala** after **Periyar and Bharathappuzha** and the **longest river** in the erstwhile princely **state of Travancore**.

- **Sabarimala Temple** dedicated to **Lord Ayyappa** is located on the banks of the river.

- The river is also known as ‘**Dakshina Bhageerathi**’ and ‘**River Baris**’.

- In old Hindu Epics, Pampa was **Lord Brahma's daughter**, who was later **married to Lord Shiva**.
Pamba River

- Pamba (also Called as Baris River) originates at Pulachimalai hill in the Peerumedu plateau in the Western Ghats at an altitude of 1,650 metres (5,410 ft).
- **Length of river is 176 km**
- **Anjana Temple** is situated near this bank.
- The river enriches the Pathanamthitta, Alappuzha districts of Kerala state.
- **Kuttanad**, important rice cultivating area in Kerala receives its irrigation water from the Pamba river.
- **Pamba basin** is bounded on the east by the Western Ghats

Physical characteristics

<table>
<thead>
<tr>
<th>Main source</th>
<th>Pulachimalai</th>
</tr>
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<tbody>
<tr>
<td>Altitude</td>
<td>1,650 m (5,410 ft)</td>
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<td>River mouth</td>
<td>Vembanad Lake</td>
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<td>Length</td>
<td>176 km (109 mi)</td>
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<td>Discharge</td>
<td>Average rate:</td>
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<td>109 m³/s (3,800 cu ft/s)</td>
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<td>Basin size</td>
<td>2,235 km² (863 sq mi)</td>
</tr>
</tbody>
</table>
Tributaries of Pamba River

1. Azhuthayar
2. Kakkiyar
3. Kakkattar
4. Kallar
5. Madatharuvi
6. Thanungattilthodu
7. Kozhithodu
8. Varattar
9. Kuttemperoor
• **Mahadayi** (Called as Mandovi in Goa), is a west-flowing river in the Western Ghats.

• It originates in Deagaon village, **Belagavi district of Karnataka**.

• The river flows about **35 km in Karnataka** and goes through **Maharashtra** and **Goa** (about **82km**) before meeting the **Arabian Sea**.

• **Mahadayi Water-sharing Dispute** has states of **Goa, Maharashtra** and **Karnataka** vying for water from the **Mahadayi or Mandovi river**, which flows through the three states.
Mahadayi/ Mandovi River
• The river has a **Length** of **77 Kilometres** (48 miles), **29 kilometres** (18 miles) in **Karnataka** and **52 kilometres** (32 miles) in **Goa**.

• River has a **2,032 km²** catchment area in **Karnataka** & **1,580 km²** catchment area in **Goa**.

• With its cerulean waters, **Dudhsagar Falls** and **Varapoha Falls**, it is also known as the **Gomati** in a few places.

• **Mandovi** and the **Zuari** are the **Two Primary** rivers in the **State of Goa**.
Mandovi River Tributaries

• *Mandovi* joins with the *Zuari* at a common point at *Cabo Aguada*, forming the Mormugao harbour.

• *Panaji*, the state capital and Old Goa, the former capital of Goa, are both situated on the **left bank** of the *Mandovi*.

• The *River Mapusa* is a **tributary** of the *Mandovi*. 
• It is **West flowing rivers** from Western Ghats

• Zuari River is the **largest river** in the **state of Goa**, India.

• It is a **tidal river**.

• The Zuari **originates** at **Hemad-Barshem** in the **Western Ghats**.

• The Zuari is also referred to as the **Aghanashani** in the **interior regions**.

• Port city of **(Vasco da Gama, Goa)** lies on the mouth of the Zuari River.
Zuari River

- **Zuari** is **92 km long**, but is connected to other **rivers and canals** such as **Mandovi river** (**62 km** in length) and **Cumbarjua Canal** (**15 km**).

- Their **lengths and widths** vary with **tidal and other seasonal flooding**.

- **Zuari** and **Mandovi Rivers** form an **estuarine system**.

- They are the backbone of **Goa's agricultural industry**.
• **Mahadayi** (Called as Mandovi in Goa), is a west-flowing river in the **Western Ghats**.

• It originates in Deagaon village, **Belagavi district of Karnataka**.

• The river flows about **35 km in Karnataka** and goes through **Maharashtra** and **Goa** (about **82km**) before meeting the **Arabian Sea**.

• **Mahadayi Water-sharing Dispute** has states of **Goa, Maharashtra** and **Karnataka** vying for water from the **Mahadayi or Mandovi river**, which flows through the three states.
Mahadayi/ Mandovi River

[Map showing the Mahadayi/Mandovi River path along the coast of western India, passing through regions like Maharashtra, Goa, and Karnataka.]
Mahadayi/ Mandovi River

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Zuari River
Tungabhadra River

• Tungabhadra River is a river in India that starts and flows through the state of Karnataka during most of its course, before flowing along the border between Karnataka, Telangana and Andhra Pradesh and ultimately joining the Krishna River in Kurnool District of Andhra Pradesh.

• Most important tributary of Krishna River is the Tungabhadra River, which is formed by the Tunga River and Bhadra River that originate in the Western Ghats.
• **Tungabhadra** is formed by the unification of the Tunga and the Bhadra originating from Gangamula in the **Central Sahyadri**.

• Its **total length** is **531 km**.

• Tungbhadra flows in **Karnataka** and **Andhra Pradesh**.

• It was known as **Pampa** during **epic period**.

• The name of famous tourist spot **Hampi** is derived from **Pampa**, which is the **old name** of the **Tungabhadra River** on whose banks the city is built.
Tungabhadra River

• The Tunga and Bhadra Rivers rise at Gangamoola, in Varaha Parvatha in the Western Ghats forming parts of the Kuduremukh Iron Ore Project, at an elevation of 1198 metres.

• Bhadra flows through Bhadravati city and is joined by numerous streams.

• At Koodli, a small town near Shimoga City, Karnataka, the two rivers meet and called with the common name Tungabhadra.

• From here, Thungabhadra meanders through the plains to a distance of 531 km (330 mi) and mingles with the Krishna at Gondimalla, near Mahaboobnagar in Andhra Pradesh.
Tungabhadra River Tributaries

- **Left Tributaries**
  1. Tunga River,
  2. Kumudvati River,
  3. Varada River

- **Right Tributaries**
  1. Bhadra River,
  2. Vedavathi River,
  3. Handri River

**Country**: India

**States**: Karnataka, Telangana, Andhra Pradesh

**Tributaries**
- left: Tunga River, Kumudvati River, Varada River
- right: Bhadra River, Vedavathi River, Handri River

**Cities**: Harihar, Hospet, Hampi, Mantralayam, Kurnool

**Source**
- Koodli (place where the Thunga and Bhadra rivers meet)

- location: Koodli, Bhadravathi, Karnataka, India
- elevation: 610 m (2,001 ft)
- coordinates: 14°0'30"N 75°40'27"E

**Mouth**
- location: Sangameswaram, Kurnool District, India
- **Malaprabha River** is one of the important tributaries of the Krishna River, which flows in Karnataka.

- It **rises** at Kanakumbi in the Belgaum district and joins the Krishna River at Kudalasangama in Bagalkot district.

- It also **flows** through Dharwar District.

- **Hubli city** gets its drinking water from this reservoir.
Malaprabha River

• Malaprabha flows a **distance** of **304 km** (189 mi) from Kanakumbi-Khanapur-Soundatti (Malaprabha Dam)-Nargund-Pattadkal-Kudalasangam **before joining** river Krishna at an **altitude** of 488 metres (1,601 ft) at Kudala Sangama in Bagalkot district.

- **Tributaries of Malaprabha**
  1. Bennihalla,
  2. Hirehalla
  3. Tuparihalla
Malaprabha River

- **Pilgrimage Centre**
  - There is an ancient temple of the deity Yellamma on a nearby hill. This is a pilgrimage centre for thousands of devotees.

  - Also the temples of Aihole, Pattadakal and Badami are on the banks of the Malaprabha.

  - These are listed as [World Heritage Sites](https://www.unesco.org) by UNESCO.
• Kabani, also called Kabini or Kapila, is one of the major tributaries of the river Cauvery in southern India.

• The river originates in the Pakramthalam hills at Kuttiady-Mananthavady road.

• Length: - 240 km

• It originates in the Wayanad District of Kerala state by the confluence of the Panamaram River and the Mananthavady River.
It flows eastward to join the Kaveri River at Tirumakudalu Narasipura in Karnataka.

Close to the town of Sargur it forms the huge Kabini Reservoir.

The backwaters of the Kabini reservoir are very rich in wildlife especially in summer when the water level recedes to form rich grassy meadows.
Kabini Dam

- Kabini dam is **2,284 ft (696 m)** in length with an original gross storage of **19.52 tmcft**.

- **Kabini Dam** is situated between villages **Bichanahalli** and **Bidarahalli** having distance of **17 km (11 mi)** 6 km away from **Sargur town** in **Heggadadevanka kote taluk, Mysore district, Karnataka**.
• This is an important river in the state of Karnataka flowing towards the west.
• The Sharavati River originates from the Shimoga district of Karnataka.

• Sharavati flows entirely in Karnataka.
• The river drains a catchment area of 2,209 sq. km.

• The Jog Falls is created by the Sharavati River, located about 24 km from Sagara, are formed by this river.
• The river Sharavati originates at a place called Ambuteertha in the Thirthahalli taluk.

• The total length of the river is around 128 km (80 mi) and it joins the Arabian Sea at Honnavar in Uttara Kannada district.

• The river itself and the region around it are rich in biodiversity and are home to many rare species of flora and fauna.
Jog Falls is the second-highest plunge waterfall in India. Located near Sagara, Karnataka, these segmented falls are a major tourist attraction.

They are also called Gersoppa Falls, Gersoppa Falls and Jogada Gundi.

Jog Falls is created by the Sharavathi River falling from a height of 253 m (830 ft.), making it the second-highest plunge waterfall in Asia after the Nohkalikai Falls with a height of 335 m (1100 ft.) in Meghalaya.

First highest waterfall in India is Dudhsagar Waterfall -Goa.
Narmada River

• It is located **mainly** in Madhya Pradesh.
• Narmada River is **also known as Rewa River**.
• The River is **originated from Maikala range near Amarkantak**.
• Narmada is the **largest West flowing river of the peninsular India**.

• Narmada flows westwards through a **rift valley** between the Vindhyan Range on the north and the Satpura Range on the south.
• It rises from **Maikala range near Amarkantak in Madhya Pradesh**, at an elevation of about 1057 m.
The River flows through Gujarat, Chhattisgarh Madhya Pradesh, and Maharashtra having an area 1 Lakh Sq.km

It is bounded by the Vindhyas on the north, Maikala range on the east, Satpuras on the south and by the Arabian Sea on the west.

Its total length from its source in Amarkantak to its estuary in the Gulf of Khambhat is 1,310 km.

Jabalpur is the only important urban centre in the basin.
Narmada River

- It makes two waterfalls of 12 m each at Mandhar and Dardi. Near Maheshwar the river again descends from another small fall of 8 m, known as the Sahasradhara Falls.
- There are several islands in the estuary of the Narmada of which Aliabet is the largest.
- The Narmada is navigable upto 112 km from its mouth.
The tributaries of Narmada River are Kolar River, Shakkar River, Dudhi River, Tawa River, and Hiran River.

Since the river flows through a narrow valley confined by precipitous (dangerously high or steep) hills, it does not have many tributaries.

The absence of tributaries is especially noted on the right bank of the river where the Hiran is the only exception.

The other right bank tributaries are the Orsang, the Barna and the Kolar.

A few left bank tributaries drain the northern slopes of the Satpura Range and join the Narmada at different places.

The major Hydro Power Project in the basin are Indira Sagar, Sardar Sarovar, Omkareshwar, Bargi & Maheshwar.
Tributaries of Narmada River
• Mahi river originates from the northern slopes of Vindhyas at an altitude of 500 m in Dhar district of Madhya Pradesh.

• Mahi is one of the major interstate west flowing rivers of India.

• The river flows through Madhya Pradesh, Rajasthan, and Gujarat, having total area of 34,842 Sq km.

• The river drains in Gulf of Cambay.

• The total length of Mahi is 583 km
• It drains into the **Arabian Sea** through the **Gulf of Khambhat**.

• The major part of **basin** is covered with **agricultural land** accounting to **63.63%** of the total area.

• It is **bounded by Aravalli hills on the north and the north-west, by Malwa Plateau on the east, by the Vindhyas on the south and by the Gulf of Khambhat on the west**.

• **Mahi Bajaj Sagar dam** and **Kadana Dam** are the major **Hydro Power stations** situated on this river.
Mahi River

- Hydro Power stations are located in **Mahi Bajaj Sagar dam** and at **Kadana Dam**.
- **Vadodara** is the only important urban centre in the basin.
- **Anas** is a Left bank tributary of Mahi.
- **Anas River rises near Kalmora on the Northern slopes of Vindhyas in Jhabua district in Madhya Pradesh**
Tawa River

- Tawa River is a tributary of the Narmada River of Central India.
- The river rises from the Satpura Range of Betul in MP.
- Tawa is the Narmada's longest tributary, at 172 km.
- It rises in the Satpura Range of Betul and flowing north and west, joins the Narmada at the village of Bandra Bhan in Hoshangabad District.
In 1958, construction began on Tawa Dam, which was completed in 1978 in Tawa Nagar to create Tawa Reservoir in southern Hoshangabad District. Forty-four villages were submerged by the reservoir.
Sabarmati River is a combination of two streams the Sabar and Hathmati.

The river is flowing through Rajasthan and Gujarat, having an area of 21,674 Sq km.

It originates from Tepur in Udaipur district of Rajasthan.

The total length of river from origin to outfall into the Arabian Sea is 371 km.
The basin is bounded by Aravalli hills on the north and north-east, by Rann of Kutch on the west and by Gulf of Khambhat on the south.

The major part of basin is covered with agriculture accounting to 74.68% of the total area.

Rainfall varies from a meager few mm in Saurastra to over 1000 mm in southern part.
Tributaries of Sabarmati River

- Left bank tributaries: the Wakal, the Hathmati and the Vatrak.
- Right bank tributaries: the Sei.
- Projects: Sabarmati reservoir (Dharoi), Hathmati reservoir and Meshwo reservoir project are major projects completed during the plan period.
Luni River

- Luni is an endorheic river.
- The Luni or the Salt River (Lonari or Lavanavari in Sanskrit) is named so because its water is brackish below Balotra.

- It is also known as the Sagarmati.
- It originates from Western slopes of the Aravalli ranges near Ajmer.
- Its total catchment area falls in Rajasthan
- Length: 495 km
Luni is the only river basin of any significance in Western Rajasthan, which form the bulk of arid zone.

Luni originates from western slopes of the Aravalli ranges at an elevation of 772 m near Ajmer flowing in South West direction and traversing a course of 511 km in Rajasthan, it finally flow into the Rann of Kachchh (it gets lost in the marsh).

Most of its tributaries drain the steep north west of Aravalli hills and join it on left side.
Himalayan Rivers

- Indus, Ganga and Brahmaputra comprise the Himalayan river systems.
- The Himalayan Rivers existed even before the formation of Himalayas i.e. before the collision of Indian Plate with the Eurasian plate. {Antecedent Drainage} They were flowing into the Tethys Sea.
- These rivers had their source in the now Tibetan region.

- The deep gorges of the Indus, the Satluj, the Brahmaputra etc. clearly indicate that these rivers are older than the Himalayas.
- They continued to flow throughout the building phase of the Himalayas; their banks rising steeply while the beds went lower and lower due to vertical erosion thus cutting deep gorges.
- Thus, many of the Himalayan Rivers are typical examples of antecedent drainage.
• **Indus River** (locally called Sindhū) is one of the longest rivers in Asia. Originating in the Tibetan Plateau in the vicinity of Lake Manasarovar

• **India** got her name from **Indus**.

• ‘The **Indus Valley Civilization**’ was born around this river.

• It’s **length** is about **2,900 km**. Its total **drainage area** is about **1,165,000 square km** [more than half of it lies in semiarid plains of Pakistan].

• It is joined by **Dhar River** near **Indo-China border**.
• It flows in **north-west direction** from its source (Glaciers of Kailas Range – Kailash range in Tibet near Lake Manasarovar) till the **Nanga Parbhat Range**.

• After entering **J&K** it flows **between the Ladakh and the Zaskar Ranges**.

• It flows through the **regions of Ladakh, Baltistan and Gilgit**.

• The **gradient** of the river in J&K is very **gentle** (about 30 cm per km).

• **Average elevation** at which the Indus flows through **JK** is about **4000 m** above sea level.
• It is joined by the Zaskar River at Leh (these kind of points are important for prelims).

• Near Skardu, it is joined by the Shyok at an elevation of about 2,700 m.

• The Gilgit, Gartang, Dras, Shiger, Hunza are the other Himalayan tributaries of the Indus.

• It crosses the Himalayas (ends its mountainous journey) through a 5181 m deep gorge near Attock, lying north of the Nanga Parbat.

• It takes a sharp southerly bend here (syntaxial bend).

• Kabul river from Afghanistan joins Indus near Attock.

• Thereafter it flows through the Potwar plateau and crosses the Salt Range (South Eastern edge of Potwar Plateau).

• The river empties into the Arabian Sea south of Karachi after forming a huge delta.
Tributaries of Indus River

- **Important tributaries below Attock**
  - Kurram, Toch and the Zhob-Gomal.

- **Five eastern tributaries**
  - Jhelum, the Chenab, the Ravi, the Beas and the Satluj.

- **Other**
  1. Shyok from Siachin glacier
  2. Suru (Obsequent tri) – originate from Deosai mt., Burzil la pass, kargil on it, chutak dam
  3. Gilgit – last tributaries in India
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Major Tributaries of Indus River

1. Jhelum River
2. Chenab River
3. Ravi River
4. Beas River
5. Satluj River
• Chenab known traditionally as the **Chandrabhaga River**, is a major river that flows in India and Pakistan, and is one of the **5 major rivers** of the Punjab region.

• Chenab originates from near the **Bara Lacha Pass** in the **Lahul-Spiti** part of the **Zaskar Range**.

• **Two small streams** on opposite sides of the pass, namely **Chandra** and **Bhaga**, form its headwaters at an altitude of **4,900 m**.

• **Length of river is 960 km**
The united stream **Chandrabhaga** flows in the **north-west direction** through the **Pangi valley**, parallel to **Pir Panjal range**.

Near **Kistwar**, it cuts a deep gorge.

It enters the plain area near **Akhnur** in **Jammu and Kashmir**.

From here it through the plains of **Pakistani Punjab** to reach **Panchnad** where it joins the **Satluj** after receiving the waters of **Jhelum** and **Ravi** rivers.

The **waters of the Chenab** are allocated to **Pakistan** under the terms of the **Indus Waters Treaty**.
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</table>
Major Tributaries of Indus River

1. Jhelum River
2. Chenab River
3. Ravi River
4. Beas River
5. Satluj River
Ravi River

- It is one of six rivers of the **Indus System** in Punjab region (Punjab means "Five Rivers").
- The **Ravi** has its source in **Kullu hills** near the **Rohtang Pass** in Himachal Pradesh.
- It drains the area between **Pir Panjal** & **Dhaola Dhar ranges**.
- It is a **transboundary river** crossing northwestern **India** and eastern Pakistan.
- **Length**: 720 km
• The **waters of Ravi** are **allocated** to **India** under **Indus Water Treaty**.

• After crossing Chamba, it takes a **south-westerly turn** and **cuts a deep gorge** in the **Dhaola Dhar range**.

• It enters Punjab Plains near Madhopur and later enters Pakistan below Amritsar.

• The **Ravi** flows into the **Chenab** and **feeds into the Indus**
Tributaries of Ravi River

Siul
Beas River

• It is a river in north India.

• River rises in the Himalayas in central Himachal Pradesh, India, and flows for some 470 kilometres (290 mi) to the Sutlej River in the Indian state of Punjab.

• Its total length is 470 kilometres (290 mi) and its drainage basin is 20,303 square kilometres (7,839 sq mi) large.
The Beas originates near the Rohtang Pass, at a height of 4,062 m above sea level, on the southern end of the Pir Panjal Range, close to the source of the Ravi.

It crosses the Dhaola Dhar range and it takes a south-westerly direction and meets the Satluj river at Harike in Punjab.

It is a comparatively small river which is only 460 km long but lies entirely within the Indian territory.

The Beas river flows into the Satluj and feeds into the Indus.
Major Tributaries of Indus River

1. Jhelum River
2. Chenab River
3. Ravi River
4. Beas River
5. Satluj River
Satluj River

• The Satluj rises from the Manasarovar-Rakas Lakes in western Tibet at a height of 4,570 m within 80 km of the source of the Indus.

• The river basin area in India is located in Himachal Pradesh, Punjab, Jammu and Kashmir, Rajasthan and Haryana states.

• Out of its total length of 1,450 km, it flows for 1,050 km in Indian territory.
Satluj River

• Like the Indus, it takes a north-westerly course upto the Shipki La on the Tibet-Himachal Pradesh boundary.

• It cuts deep gorges where it pierces the Great Himalaya and the other Himalayan ranges.

• Before entering the Punjab plain, it cuts a gorge in Naina Devi Dhar, where the famous Bhakra dam has been constructed.

• After entering the plain at Rupnagar (Ropar), it turns westwards and is joined by the Beas at Harike.
• From near Ferozepur to Fazilka it forms the **boundary between India and Pakistan** for nearly 120 km.

• During its onward journey it **receives** the **collective drainage** of the Ravi, Chenab and Jhelum rivers.

• It **joins** the Indus a few kilometres above Mithankot.

• The **waters of the Sutlej** are **allocated to India** under the **Indus Waters Treaty** between India and Pakistan, and are mostly diverted to irrigation canals in India.

• There are several **Major Hydroelectric Projects** on the Sutlej, including the 1,000 MW Bhakra Dam, the 1,000 MW Karcham Wangtoo Hydroelectric Plant, and the 1,530 MW Nathpa Jhakri Dam.
Major Hydroelectric Projects on the Sutlej
There has been a proposal to build a 214-kilometre (133 mi) long heavy freight and irrigation canal, to be known as the Sutlej-Yamuna Link (SYL) to connect the Sutlej and Yamuna rivers.

The project is intended to connect the Ganges, which flows to the east coast of the subcontinent, with points west, via Pakistan.

When completed, the SYL would enable inland shipping from India's east coast to its west coast (on the Arabian sea) without having to round the southern tip of India by sea.
Ganga is a trans-boundary river of Asia which flows through the nations of India and Bangladesh.

The Ganga originates as Bhagirathi from the Gangotri glacier in Uttarkashi District of Uttarakhand at an elevation of 7,010 m.

Alaknanda River joins Bhagirathi at Devprayag.

From Devaprayag the river is called as Ganga.

Total length is 2,525 km.
• Ganga debouches [emerge from a confined space into a wide, open area] from the hills into plain area.

• It is joined by the Yamuna at Allahabad.

• Near Rajmahal Hills it turns to the south-east.

• At Farraka, it bifurcates into Bhagirathi-Hugli in West Bengal and Padma-Meghna in Bangladesh (it ceases to be known as Ganga after Farraka).

• Then it merges with Meghna & finally falls in Bay of Bengal.

• Ganges is the third largest river in the world by discharge.
Farraka Barrage: in West Bengal near 90 km of Bangladesh of 40000 cusec capacity

Farrakka Barrage Project – Main Objectives

- To divert adequate quantity of Ganga waters to Bhagirathi - Hoogly river system though 38 km long feeder canal for preservation and maintenance of Kolkata Port by improving the regime and navigability of the Bhagirathi - Hoogly river system.
- The increased upland supply from Ganga at Farakka into Bhagirathi reduces salinity and ensures sweet water supply to Kolkata and surrounding areas.
- The rail-cum-road bridge built over Farakka Barrage across the river Ganga at Farakka establishes direct road and rail communication link to the North-Eastern States with rest of the country.
- The Bhagirathi, the Feeder Canal and the Navigation Lock at Farakka form part of the Haldia-Allahabad Inland Waterway (National Waterway No:1).
The Ganges, also known as Ganga, is a trans-boundary river of Asia which flows through the nations of India and Bangladesh. Wikipedia

- **Length:** 2,525 km
- **Mouth:** Ganges Delta
- **Basin:** 1,080,000 km² (416,990 sq mi)
- **Sources:** Gangotri Glacier, Nanda Kot, Nanda Devi, Satopanth Glacier, Kedarnath, Kamet, Trisul
- **Cities:** Haridwar, Varanasi, Allahabad, Kolkata, Patna, Kanpur, Ghazipur

**Did you know:** River Ganga is about 1557 miles long (2506 km). haridwartourism.in
Major Tributaries of Ganga River

Haridwar
Tajewala
New Delhi
Ghaziabad
Jaipur
Agra
Yamuna
Kanpur
Allahabad
Varanasi
Patna
Son
Farakka
Rajmhal Hills

Janapao Hills
Aravali Range
Chambal
Bhopal
Indore
Biswa
Tamsa
Kosi
Ganges
Kanauj
Ramanganga
Lucknow
Kathmandu
Ghaghara
Gomti
Gangadak
Raidak
Manas
Chin
Kamneng
Lhasa
Yarlung Zangbo (Tsangpo)
China
Diabang
Lohit
Subansiri
Guwahati
Surma
Brahmaputra
Brahmaputra
Barak
Dhansiri (Nagaland)
Mouths of the Ganges

Bay of Bengal
MYANMAR
INDIA
## Major Tributaries of Ganga River

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</table>
Ganga River

• Ganga is a **trans-boundary river** of Asia which flows through the nations of India and Bangladesh.

• The Ganga originates as Bhagirathi from the Gangotri glacier in Uttar Kashi District of Uttarakhand at an elevation of 7,010 m.

• **Alaknanda River** joins **Bhagirathi** at Devaprayag.

• From **Devapryag** the river is called as Ganga.

• **Total length** is 2,525 km.
Ganga River

- Ganga debouches [emerge from a confined space into a wide, open area] from the hills into plain area.
- It is joined by the Yamuna at Allahabad.
- Near Rajmahal Hills it turns to the south-east.
- At Farraka, it bifurcates into Bhagirathi-Hugli in West Bengal and Padma-Meghna in Bangladesh (it ceases to be known as Ganga after Farraka).
- Then it merges with Meghna & finally falls in Bay of Bengal.
- Ganges is the third largest river in the world by discharge.
• **Farraka Barrage**: in West Bengal near 90 km of Bangladesh of 40000 cusec capacity

**Farakka Barrage Project – Main Objectives**

- To divert adequate quantity of Ganga waters to Bhagirathi - Hoogly river system though 38 km long feeder canal for preservation and maintenance of Kolkata Port by improving the regime and navigability of the Bhagirathi - Hoogly river system.
- The increased upland supply from Ganga at Farakka into Bhagirathi reduces salinity and ensures sweet water supply to Kolkata and surrounding areas.
- The rail-cum-road bridge built over Farakka Barrage across the river Ganga at Farakka establishes direct road and rail communication link to the North-Eastern States with rest of the country.
- The Bhagirathi, the Feeder Canal and the Navigation Lock at Farakka form part of the Haldia-Allahabad Inland Waterway (National Waterway No:1).
Ganges

River in India

4.3 ★★★★★  5,052 Google reviews

The Ganges, also known as Ganga, is a trans-boundary river of Asia which flows through the nations of India and Bangladesh. [Wikipedia](https://en.wikipedia.org/wiki/Ganges)

Length: 2,525 km

Mouth: Ganges Delta

Basin: 1,080,000 km² (416,990 sq mi)

Sources: Gangotri Glacier, Nanda Kot, Nanda Devi, Satopanth Glacier, Kedarnath, Kamet, Trisul

Cities: Haridwar, Varanasi, Allahabad, Kolkata, Patna, Kanpur, Ghazipur

Did you know: River Ganga is about 1557 miles long (2506 km). [haridwartourism.in](http://haridwartourism.in)
**Major tributaries of Alaknanda**

1. East Trisul (joins Alaknanda at Karan Prayag)
2. Pindar (rises from Nanda Devi)
3. Mandakini or Kali Ganga (joins Alaknanda at Rudra Prayag)
4. Dhauliganga
5. Bishenganga.
6. [Kishenganga is the tributary of Jhelum]

**Major tributaries of Bhagirathi**

1. Bheling
Major Tributaries of Ganga River

[Map of the Ganges River with major tributaries and cities labeled.]
### Major Tributaries of Ganga River

#### Left Bank River
1. Ramganga
2. Gomti
3. Karnali
4. Gandaki
5. Koshi
6. Mahananda

#### Right Bank River
1. Yamuna
2. Tamsa
3. Son
4. Punpun
The Ramganga river rises in the Garhwal district of Uttarakhand. It enters Ganga Plain near Kalagarh. Ramganga is comparatively a small river rising in the Garhwal hills near Gairsain. It is a tributary of the river Ganges, originates from the high altitude zone of 800m-900m. It has a drainage basin of 30,641 km².

- **Length:** 596 km.
- **Cities:** Bareilly, Ramnagar
• It changes its course to the southwest direction after crossing the Shiwalik and enters into the plains of Uttar Pradesh near Najibabad.

• Finally, it joins the Ganga near Kannauj.

• An annual festival of Ganga Dassahra is organised on its banks annually during the months of September and October at Chaubari village near Bareilly.
Tributaries of Ramganga River

- Khoh
- Aril
- Kosi
- Deoha (Gorra)
- Gangan
Another Ramganga called Ramganga East originates from the Namik Glacier in Pithoragarh district of Uttarakhand and flows towards South-East.

The river is fed by numerous small and big rivers and finally joins river Sarju at Rameshwar near Ghat of Pithoragarh.

The Sarju in turn confluences with the Kali (Sharda).
# Major Tributaries of Ganga River

**Left Bank River**
1. Ramganga
2. Gomati
3. Ghaghara
4. Gandaki
5. Koshi
6. Mahananda
7. Karnali

**Right Bank River**
1. Yamuna
2. Tamsa
3. Son
4. Punpun
Gomati River

• Gomti, Gumti or Gomati River is a tributary of the Ganga.

• The Gomti originates from Gomat Taal which formally known as Fulhaar jheel, near Madho Tanda, Pilibhit, India.

• It extends 900 km through Uttar Pradesh and meets the Ganga River near Saidpur, Kaithi in Ghazipur.

• **Length:** 900 km

• **Lucknow** is on Gomati.
According to Hindu mythology, the river is the daughter of the Hindu sage Vashist; bathing in the Gomti on Ekadashi (the eleventh day of the two lunar phases of the Hindu calendar month) can wash away sins.

According to Bhagavata Purana one of Hinduism's major religious works, the Gomti is one of India's transcendental rivers.

The rare Gomti Chakra is found there.
## Major Tributaries of Ganga River

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</tbody>
</table>
• Its **source** is near **Gurla Mandhata peak**, south of **Manasarovar in Tibet** (river of the trans-Himalayan origin).

• It is known as the **Karnaili** in **Western Nepal**.

• After collecting the waters of its **tributaries** – **Tila, Seti** and **Beri**, it comes out of the mountain, cutting a deep gorge at **Shishapani**.

• The **total length** of Ghaghara River up to its confluence with the Ganges at Revelganj in Bihar is **1,080 km**.
The river Sarda (Kali or Kali Ganga) joins it in the plain before it finally meets the Ganga at Chhapra.

The Ghaghara joins the Ganga a few kilometres downstream of Chhapra in Bihar.

After reaching the plain area, its stream gets divided into many branches of which, Koriyab and Garwa are important.

The river bed is sandy and sudden bends start occurring in the stream.

The river has a high flood frequency and has shifted its course several times.
Tributaries of Ghaghra River

Left Bank River
- Koilar rivers
- Khanua river

Right Bank River
- Khekhra
- Hirna
- Jethan
- Maun
- Duhari
- Kanchi
### Major Tributaries of Ganga River

**Left Bank River**
1. Ramganga
2. Gomati
3. Ghaghara
4. Gandaki
5. Koshi
6. Mahananda
7. Karnali

**Right Bank River**
1. Yamuna
2. Tamsa
3. Son
4. Punpun
The Kosi is an antecedent river with its source to the north of Mount Everest in Tibet, where its main stream Arun rises.

The Kosi river consists of seven streams namely Sut Kosi, Tamba Kosi, Talkha, Doodh Kosi, Botia Kosi, Arun and Tamber and is popularly known as Saptakoshi.

These streams flow through eastern Nepal which is known as the Sapt Kaushik region.

Length: 729 km.

Countries: India, Nepal
The sources of seven streams of the Kosi are located in snow covered areas which also receive heavy rainfall.

After crossing the Central Himalayas in Nepal, it is joined by the Son Kosi from the West and the Tamur Kosi from the east.

It forms Sapt Kosi after uniting with the river Arun.

Consequently, huge volume of water flows with tremendous speed.

Seven streams mingle with each other to form three streams named the Tumar, Arun and Sun Kosi.
• They unite at Triveni north of the Mahabharata Range to form the Kosi.
• The river enters the Tarai of Nepal after cutting a narrow gorge in the Mahabharata Range. And it joins the Ganga.

• The river channel is braided and it shifts its course frequently. This has resulted in frequent devastating floods and has converted large tracts of cultivable land into waste land in Bihar.
• Thus the river is often termed as the ‘Sorrow of Bihar’.
• In order to tame this river, a barrage was constructed in 1965 near Hanuman Nagar in Nepal.
• Embankments for flood control have been constructed as a joint venture of India and Nepal.
Tributaries of Koshi River

- Sut Kosi
- Tamba Kosi
- Talkha
- Doodh Kosi
- Botia Kosi
- Arun
- Tamber
## Major Tributaries of Ganga River

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</table>
Mahananda River

- Mahananda River is a **trans-boundary river** that flows through the Indian states of **West Bengal** and **Bihar**, and **Bangladesh**.
- The Mahananda is another important tributary of the Ganga **rising** in the Darjeeling hills.
- **Length** is **360 km**
- **Total drainage area** **20,600 sq km**

- **Countries** - India, Bangladesh
- **States** - West Bengal, Bihar
Mahananda River

• Mahananda originates in Himalayas: Paglajhora Falls on Mahaldiram Hill near Chimli, east of Kurseong in Darjeeling district at an elevation of 2,100 metres (6,900 ft).

• It joins the Ganga as its last left bank tributary in West Bengal.

• Main tributaries of the Mahananda are Balason, Mechi, Kankai and River Kalindri.
Tributaries of Mahananda River

**Left Bank River**
1. Tangon River
2. Nagar River

**Right Bank River**
1. Mechi River
2. Kankai River
3. Balason River
4. Kalindri River
Major Tributaries of Ganga River

Left Bank River
1. Ramganga
2. Gomati
3. Ghaghara
4. Gandaki
5. Koshi
6. Mahananda
7. Karnali

Right Bank River
1. Yamuna
2. Tamsa
3. Son
4. Punpun
Yamuna River

• Yamuna is the **longest** and the **second largest tributary** river of the **Ganga** in northern India.

• It **originates** from the **Yamnotri glacier** on the **Bandarpunch Peak** in the **Garhwal region** in **Uttarakhand** at elevation of about **6,000 meters**.

• It crosses several states: **Haryana** and **Uttar Pradesh**, passing by **Uttarakhand** and later **Delhi**,

• Length: **1,376 km**
Yamuna River

• It cuts across the **Nag Tibba**, the **Mussoorie** and the **Shiwalik ranges**.

• Its **main affluent** in the upper reaches is the **Tons** which also rises from the **Bandarpunch glacier**.

• It joins Yamuna below **Kalsi** before the latter leaves the hills.

• At this site, the **water carried** by the **Tons** is **twice the water carried** by Yamuna.

• It joins the **Ganga** at **Prayag (Allahabad)**.
Yamuna River

• It creates the highly fertile alluvial, Yamuna-Ganges Doab region between itself and the Ganges in the Indo-Gangetic plain.

• It is joined by the Chambal, the Sind, the Betwa and the Ken on its right bank which originates from the Peninsular plateau while Hindan, the Rind, the Sengar, the Varuna, etc. join it on its left bank.
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<thead>
<tr>
<th>Tributaries of Yamuna River</th>
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<tbody>
<tr>
<td><strong>Left Bank River</strong></td>
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<tr>
<td>Hindon</td>
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<td>Sharda</td>
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<td>Giri</td>
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<td>Rishiganga</td>
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<td>Hanuman Ganga</td>
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<td>Sasur Khaderi</td>
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<td><strong>Right Bank River</strong></td>
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<td>Chambal</td>
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<td>Betwa</td>
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<td>Ken</td>
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<tr>
<td>Sindh</td>
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<tr>
<td>Tons</td>
</tr>
</tbody>
</table>
Tributaries of Yamuna

1. Betwa River
2. Hindon River
3. Sindh River
4. Ken River
5. Chambal River
6. Tons River
1. Betwa River
- Betwa or Vetravati originates in Vindhya Range just north of Hoshangabad in Madhya Pradesh and flows north-east through Madhya Pradesh and flow through Orchha to Uttar Pradesh.
- It meets Yamuna at Hamirpur town in Uttar Pradesh.
- Length: 590 km

2. Hindon River
- Hindo River is a rainfed river that originates in the Saharanpur District, Uttar Pradesh.
- It flows between Ganges and Yamuna rivers and joins Yamuna river just outside Delhi.
- Length: 400 km
Tributaries of Yamuna

- **Sindh River**
  - It **originates** on the **Malwa Plateau** in **Vidisha district**, and **flows north-northeast** to **join** the **Yamuna River** in **Etawah district**, **Uttar Pradesh**.
  - **Manikheda Dam** has been constructed across the Sindh River in **Shivpuri** district, **Madhya Pradesh**.
  - Length: 470 km

- **Ken River**
  - It is **one of the major rivers** of the **Bundelkhand region** of central India & **flows through 2 states**, **Madhya Pradesh** and **Uttar Pradesh**.
  - It is a **tributary** of the Yamuna.
  - Length: 427 km
Tributaries of Yamuna

- **Chambal River**
  - Chambal River is one of the most pollution free rivers of India.
  - It’s a **960 km long river** that originates at the Singar Chouri peak in the northern slopes of the Vindhyan mountains, **15 km West-South-West of Mhow in Indore District in Madhya Pradesh**.
  - From there, it flows in a **northerly direction** in Madhya Pradesh(M.P.) for a length of about **346 km** and then in a generally north-easterly direction for a length of **225 km** through Rajasthan.
Tributaries of Chambal River

1. Banas River
2. Kali Sindh River
3. Parbati River
**Tributaries of Chambal**

- **Banas River**
  - Banas river is a *rainfed river* that flows in *Rajasthan*. Banas means *hope of forests*.
  
  - It originates in *Khamnor Hills* of the *Aravalli Range*, about 5 km from Kumbhalgarh in Rajsamand and flows northeast through Mewar region of Rajasthan, meets the *Chambal* near the village of *Rameshwar* in Sawai Madhopur District.

  - The cities of *Nathdwara*, *Jahanpur*, and *Tonk* lie on the *river*.
  - Length: 512 km
Tributaries of Chambal

- **Kali Sindh River:**
  - The Kali Sindh is a river in the Malwa region of Madhya Pradesh, that joins the Chambal River at downstream of Sawai Madhopur in Rajasthan.
  - Length: 351 km

- **Parbati River:**
  - Parbati River is a river in Madhya Pradesh, India that flows into the Chambal River.
  - It is one of the Chambal River’s three main tributaries, along with the Banas River and the Kali Sindh River.
  - Length: 436 km
Major Tributaries of Ganga River

Left Bank River
1. Ramganga
2. Gomati
3. Ghaghara
4. Gandaki
5. Koshi
6. Mahananda
7. Karnali

Right Bank River
1. Yamuna
2. Son
3. Punpun
Tamsa River (also known as the Tons River) is a tributary (largest) of Yamuna flowing through the Indian states of Madhya Pradesh and Uttar Pradesh.

- Tamas rises in a tank at Tamakund in the Kaimur Range at an elevation of 610 metres (2,000 ft).

- It flows through the fertile districts of Satna and Rewa.

- Length - 264 km
At the edge of the Purwa plateau, the Tamus and its tributaries form a number of waterfalls.

The river receives the Belan in UP and joins the Ganges at Sirsa, about 311 kilometres (193 mi) downstream of the confluence of the Ganges and Yamuna.

The total length of the river is 264 kilometres (164 mi).

It has a total drainage area of 16,860 square kilometres (6,510 sq mi).
## Major Tributaries of Ganga River

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Tamsa/ Tone River

- Tamsa River (also known as the Tons River) is a tributary (largest) of Yamuna flowing through the Indian states of Madhya Pradesh and Uttar Pradesh.
- Tamas rises in a tank at Tamakund in the Kaimur Range at an elevation of 610 metres (2,000 ft).
- It flows through the fertile districts of Satna and Rewa.
- Length - 264 km
At the edge of the **Purwa plateau**, the **Tamas** and its **tributaries** form a **number of waterfalls**.

The river receives the **Belan** in **UP** and **joins** the **Ganges** at **Sirsa**, about **311 kilometres** (193 mi) downstream of the **confluence** of the **Ganges** and **Yamuna**.

The **total length** of the river is **264 kilometres** (164 mi).

It has a **total drainage area** of **16,860 square kilometres** (6,510 sq mi).
**Major Tributaries of Ganga River**

**Left Bank River**
1. Ramganga
2. Gomati
3. Ghaghara
4. Gandaki
5. Koshi
6. Mahananda
7. Karnali

**Right Bank River**
1. Yamuna
2. Son
3. Punpun
Son River

- **Son River** is largest of southern tributaries of Ganga that originates near Amarkantak in Madhya Pradesh near the source of Narmada River, and flows north-northwest through Madhya Pradesh before turning sharply eastward where it encounters the southwest-northeast-running Kaimur Range.

- Its **source** is close to the **origin** of the Narmada.
- It passes along the **Kaimur Range**.
- Length- **784 km**
Son River

- It **joins** the **Ganga** near **Danapur** in **Patna district** of **Bihar**.

- The Son parallels the Kaimur hills, flowing east-northeast through **Uttar Pradesh**, **Jharkhand** and **Bihar states** to join the Ganga just above Patna.

- Geologically, the **lower valley** of the Son is an **extension** of the Narmada Valley, and the Kaimur Range an extension of the Vindhya Range.

- **Chief tributaries** of Son river are **Rihand** and the **North Koel**.

- The **Son** has a **steep gradient** (35–55 cm per km) with quick run-off and ephemeral regimes, becoming a roaring river with the rain-waters in the catchment area but turning quickly into a fordable stream.
The Rihand River is a tributary of the Son River and flows through the Indian states of Chhattisgarh and Uttar Pradesh. It rises in Chhattisgarh at Matiranga hills and there is a Rihand Dam that was constructed at Pipri in Sonbhadra district of Mirzapur division in 1962 for hydropower generation.

The reservoir of this dam is called Govind Ballabh Pant Sagar. Rihand meets Son at Sonbhadra of Uttar Pradesh.

The important tributaries of the Son are the Johilla, the Gopat, the Rihand, the Kanhar and the North Koel. Almost all the tributaries join it on its right bank.
Major Tributaries of Son River

Left Bank River
1. Ghaghar River
2. Johilla River

Right Bank River
1. Gopad River
2. Rihand River
3. Kanhar River
4. North Koel River
## Major Tributaries of Ganga River

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</table>
• **Punpun River** is a **tributary** of the **Ganges**.
• It **originates** in **Palamu district of Jharkhand** and flows through Chatra, Aurangabad, Gaya and Patna districts of the **Indian states of Jharkhand and Bihar**

• The Punpun **originates** on the **Chota Nagpur Plateau**, at an elevation of **300 metres** (980 ft),

• **States**: **Jharkhand, Bihar**
• **Length**: **200 km** (124 mi)
The river mostly flows in a **north-east direction** and **joins** the **Ganges** at **Fatuha**, 25 kilometres (16 mi) **downstream of Patna**.

**During rains**, the **Punpun** often causes heavy **flood damages** east of **Patna city**.

The **catchment area** of the **Punpun** is **8,530 square kilometres** (3,290 sq mi).

**Agricultural area** in the **Punpun basin** is about **5,000 square km** (1,900 sq mi).

The **main tributaries** of the **Punpun** are – the **Butane**, the **Madar** and the **Mohar**.
Ganga River System is Over
<table>
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<td>1. Dibang /Sikang</td>
<td>1. Subansiri</td>
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<td>2. Lohit</td>
<td>2. Manas</td>
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<td>3. Burhi Dihing</td>
<td>3. Teesta</td>
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<td>4. Dhansiri</td>
<td>4. Sankosh</td>
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<td>5. Suma</td>
<td>5. Kameng</td>
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<td>7. Jaldhaka</td>
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</table>
Major Tributaries of Brahmaputra River
Important Tributaries of Brahmaputra

- Teesta River
- Manas River
- Lohit River
Teesta River

- Major tributary of Brahmaputra.
- Rises from Sikkim.
- Known as lifeline of Sikkim.
- Teesta River is lifeline of Sikkim and makes a border between Sikkim and West Bengal before joining the Brahmaputra as a tributary in Bangladesh.

- Length: 309 km
It originates at Tso Lhamo Lake in North Sikkim and is formed by the melting of the Tista Khantse glacier.

Just before the Teesta Bridge, which joins Kalimpong with Darjeeling, the river is met by its main tributary, the Rangeet River.

At this point, it changes course southwards flowing into West Bengal.

The river hits the plains at Sevoke, at a distance of 22 Km from Siliguri, where it is spanned by the Coronation Bridge which links north-east states to the rest of India.
• The river then courses its way to Jalpaiguri and then to Rangpur District of Bangladesh, before finally merging with the mighty Brahmaputra at Fulchori.

➢ Tributaries

1. Left-
   1. Dik Chhu, Rangpo River, Lang Lang Chu, Lachung River, Rani Khola

2. Right-
   • Ranghap Chhu, Rangeet, Ringyong Chhu
Manas River

- Manas River follows in India and Bhutan and is the largest river system of Bhutan.
- Three other river systems of Bhutan are Amo Chu or Torsa, Wong Chu or Raidak, Mo Chu or Sankosh.
- It is met by three other major streams before it again debouches into India in western Assam.
- Length: 376 kilometres.
- Country: India, Bhutan, China.
• After flowing a total of 376 kilometers, it meets Brahmaputra River at Jogighopa.

• Its river valley is home to Royal Manas National Park in Bhutan and the contiguous Manas Wildlife Sanctuary of India which is a Project Tiger Reserve, an Elephant Reserve and a Biosphere Reserve as well as a UNESCO World Heritage Site.
Lohit River

• Lohit River or Zayü River is a river in India and China.
• It is a tributary to the Brahmaputra River.
• Flows through Arunachal Pradesh
• Along with river Dihang merges into Brahmaputra, at Sadia town (Arunachal Pradesh)
• Length: 450 km