

Ganga River System

[UPSC Notes]

What is the Ganga River System?

The river system Ganga extends across Bangladesh, Nepal, Tibet, and India covering almost 10,86,000 square kilometers of area.

- It makes up nearly one-fourth of India's total land area and is the country's biggest river basin covering nearly 8,61,452 square kilometers of area.
- The sacred river is fueled by melting Himalayan snowfall, rain, and freshwater from tributaries.
- The area covered by it includes the union territory of Delhi, the states of Madhya Pradesh, Uttar Pradesh, Rajasthan, West Bengal, Bihar, Jharkhand, Haryana, Himachal Pradesh, and Chhattisgarh.

Ganga Drainage System

Alaknanda

Alaknanda is one of the Ganga's headstreams. In Uttarakhand, it emerges from the confluence and base of the Satopanth glacier and Bhagirath glacier. At Devprayag, when it emerges from the Bhagirathi River, it acquires the name Ganga. The Mandakini, Nandakini and Pindar rivers are its principal tributaries. Parts of the districts of Chamoli, Pauri, and Tehri are drained by the Alaknanda river system.

Bhagirathi

Bhagirathi headstreams join the Alaknanda at the Devprayag leading to the formation of the Ganga river. It is the most crucial headstream of the Ganga river. The Bhagirathi rises at Gaumukh, which is located at the height of 3892 metres above sea level, near the base of Chaukhamba peak, in the Uttarkashi district of Uttarakhand, at the foothills of Gangotri glacier. Along the river, Gangotri, Tehri, and Uttarkashi were some of the significant townships.

Dhauliganga

It hails from Vasudhara Tal, called Uttarakhand's biggest glacier lake. One of the Alaknanda's significant tributaries, along with the Mandakini, Nandakini, Pindar and Bhagirathi, is the Dhaul Ganga. The Rishiganga river joins the Dhauliganga in Raini. At Vishnuprayag, it combines with the Alaknanda River. The Alaknanda then sheds its identity and continues to flow in the south-western direction until it meets the northbound Mandakini river at Rudraprayag. The Alaknanda continues past Srinagar after swallowing up Mandakini until it meets the Ganga at Devprayag. The powerful

Ganga continues its voyage after Alaknanda vanishes, initially pouring south and then west, past significant pilgrimage sites like Rishikesh before finally plunging into the Indo-Ganga lands at Haridwar.

Rishiganga

The Rishi Ganga river rises through the Chamoli district in Uttarakhand. It emerges from the Nanda Devi mountains Utri Nanda Devi glacier. Near the townlet of Raini, it passes across the Nanda Devi National Park before joining the Dhaulti Ganga river.

Ganga River System Map

The map for the Ganga river system is given below:



Ganga River Tributaries

The tributaries of the Ganga river are divided into two categories for easier understanding. These are as follows:

Ganga Right Bank Tributaries

- **Yamuna:** The Yamuna river is one of the longest tributaries of the Ganga river system. The Yamunotri glacier acts as its source, which is 6316 km long and is found on the western foothills of the Bandarpunch range.
- **Son:** This significant Ganga Southbank tributary provides water to the Amarkantak plateau. The river creates a series of waterfalls before flowing westward to Arrah, located in the west of Patna, the spot it enters the Ganga river system.
- **Punpun:** The Punpun river rises in the Palamu district of Jharkhand and flows through Chatra, Aurangabad, Gaya, and Patna.
- **Falgu:** Falgu or Phagu is the river flowing past Gaya, a district in the state of Bihar. Falgu is an important tourist destination and holds importance from the pilgrimage point of view. Falgu River is also famous as the 'Niranjana River.
- **Kiul:** Kiul river is the tributary of Ganga, and originates in Jharkhand. It also flows through the districts of Lakhisarai, Sheikhpura, and Jamui in Bihar. This river is 110km long and drains an area of about 16,500kms.
- **Chandan:** Chandan river can be found flowing in the district of Bhagalpur in Bihar. Popularly, this river is known as Champa to the locals as on its banks, the Champa village was established.
- **Ajoy:** Jharkhand's Ajoy or Ajay river originates from a small hill in Deoghar, which is about 300mt in height. Ajay river originates from Jharkhand and ends up in Simjuri of West Bengal, via Bihar.
- **Damodar:** Damodar is an important tributary of Ganga river. Damodar originates from the region of ChhotaNagpur Plateau, the Palamau district of Bihar.
- **Rupnarayan:** Rupnarayan river originates from Dhalkisor, in the foothills of ChhotaNagpur Plateau, and ends up in the town of Bankura, where it becomes the Dwarkeshwar river.
- **Tamsa:** Tamsa river is the tributary of the Ganga, that flows through the states of Madhya Pradesh and Uttar Pradesh. It originates from Tamkund in the Kaimur range.
- **Karamnasa:** Karamnasa is the tributary of the Ganga river that originates from the Kaimur region and flows through the states of Bihar and Uttar Pradesh.

Ganga Left Bank Tributaries

- **Ramganga:** The Ramganga tributary drains the south-western region of Kumaun. It originates from the Southern slopes of Dudhatoli hill located in the Chamoli district of Uttarakhand.
- **Garra:** Major industrial regions of the Shahjahanpur district of Uttar Pradesh are traversed by the Garra River, a tributary of the river Ganga.
- **Gomti:** The Gomti River rises from Gomti Taal, also called Fulhaar Jheel, which is located close to Madho Tanda in Pilibhit, Uttar Pradesh. It travels 900 km in UP before coming along with the Ganga river in Ghazipur.
- **Ghaghara:** The glaciers in Mapchachungo are the source of the Ghaghara river. It traverses the Nepalese Himalayas before joining the Sharada river in Brahma Ghat, India. It joins the Ganga in Chhapra in Bihar and is a significant left-bank

tributary to the Ganga river system. It is 1080 km long. The principal tributaries of this river are Sarju, Sharda, Rapti, and Chhoti Gandak.

- **Gandak:** The Gandak River is created by the confluence of the Kali and Trisuli river, which originated in Nepal's great Himalayan range. It travels a tortuous 765 km before entering the Ganga in Sonapur, which is located in Patna.
- **Burhi Gandak:** Burhi Gandak is a 320 km long river that passes through the East Champaran district before beginning its journey from Chautarwa Chaur near Bishambhar Pur in the West Champaran district of Bihar. Burhi Gandak traverses 32 km through the Muzaffarpur district before heading South East.
- **Kosi:** It is also known as the Saptakoshi. Saptakoshi is an ancient transboundary river that flows across Nepal and India and has seven Himalayan tributaries. Arun, Bhote Koshi, and Sun Kosi are a few of the rivers that originate in Tibet, which are a part of the Kosi river system. One of the Ganga's major tributaries, the Kosi river has a 729 km long stretch and meets Ganga in Kursela in the Katihar district.