

# INDIAN RIVER SYSTEM



## Major River System – The Indus River System

The Indus arises from the northern slopes of the Kailash range in Tibet near Lake Manasarovar.

- ❖ It has a large number of tributaries in both India and Pakistan and has a total length of about 2897 km from the source to the point near Karachi where it falls into the Arabian Sea out of which approx 700km lies in India.
- ❖ It enters the Indian Territory in Jammu and Kashmir by forming a picturesque gorge.
- ❖ In the Kashmir region, it joins with many tributaries – the Zaskar, the Shyok, the Nubra and the Hunza.
- ❖ It flows between the Ladakh Range and the Zaskar Range at Leh.
- ❖ It crosses the Himalayas through a 5181 m deep gorge near Attock, which is lying north of Nanga Parbat.

The major tributaries of the Indus River in India are Jhelum, Ravi, Chenab, Beas, and Sutlej.

## Major River System – The Brahmaputra River System

The Brahmaputra originates from Mansarovar Lake, which is also a source of the Indus and Sutlej.

- ❖ It is 3848kms long, a little longer than the Indus River.
- ❖ Most of its course lies outside India.
- ❖ It flows parallel to the Himalayas in the eastward direction. When it reaches Namcha Barwa, it takes a U-turn around it and enters India in the state of Arunachal Pradesh.
- ❖ Here it is known as the Dihang River. In India, it flows through the states of Arunachal Pradesh and Assam and is connected by several tributaries.
- ❖ The Brahmaputra has a braided channel throughout most of its length in Assam.

The river is known as the Tsangpo in Tibet. It receives less volume of water and has less silt in the Tibet region. But in India, the river passes through a region of heavy precipitation, and as such, the river carries large amounts of water during rainfall and a significant amount of silt. It is considered one of the largest rivers in India in terms of Volume. It is known for creating the calamity in Assam and Bangladesh.

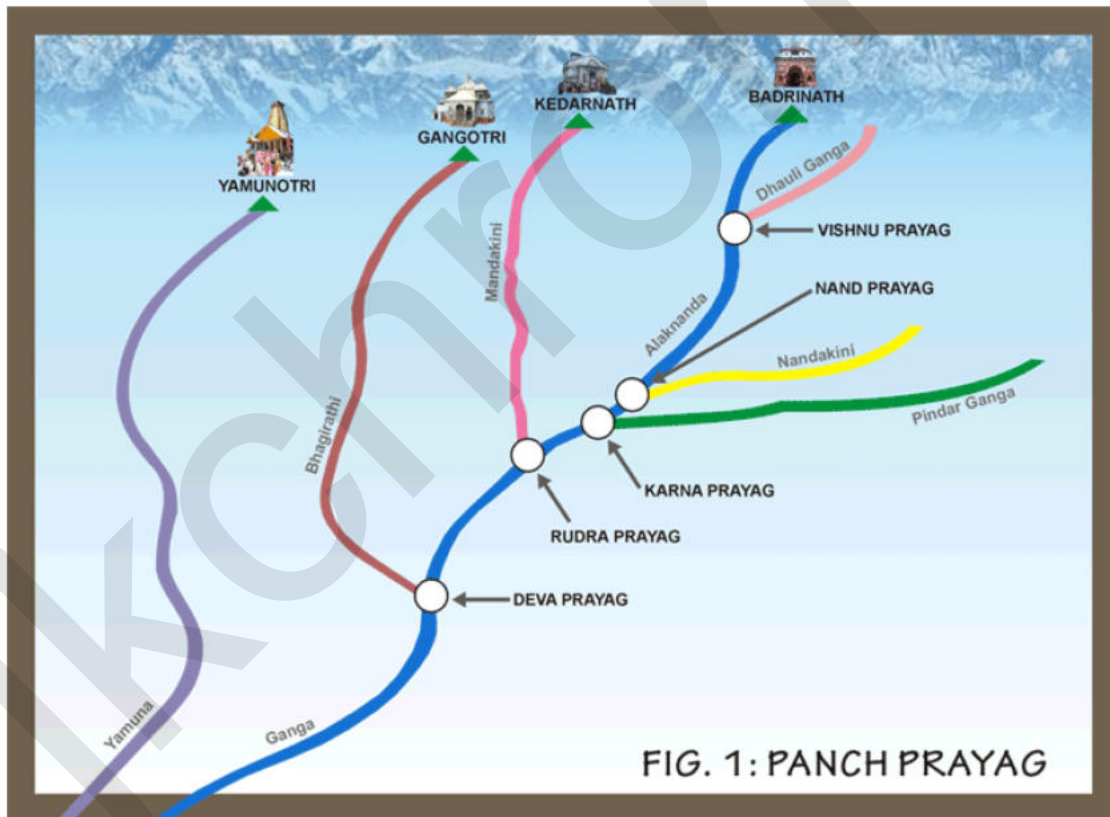
## Major River System – Ganga River System



- ❖ The Ganga originates as the Bhagirathi from the Gangotri glacier.
- ❖ Before it reaches Devprayag in the Garhwal Division, the Mandakini, Pindar, the Dhauliganga and the Bishenganga rivers merge into the Alaknanda and the Bheling drain into the Bhagirathi.
- ❖ The Pindar River rises from East Trishul and Nanda Devi unite with the Alaknanda at Karan Prayag. The Mandakini meets at Rudraprayag.
- ❖ The water from both Bhagirathi and the Alaknanda flows in the name of the Ganga at Devprayag.

#### The concept of Panch Prayag

1. Vishnuprayag: where the river Alaknanda meets river Dhauli Ganga
2. Nandprayag: where river Alaknanda meets river Nandakini
3. Karnaprayag: where river Alaknanda meets river Pinder
4. Rudraprayag: where river Alaknanda meets river Mandakini
5. Devprayag: where river Alaknanda meets river Bhagirathi -GANGA



The principal tributaries of the Ganga are Yamuna, Damodar, Sapta Kosi, Ram Ganga, Gomati, Ghaghara, and Son. The river after travelling a distance of 2525 km from its source meets the Bay of Bengal.

## **Yamuna River System**

- ❖ The Yamuna River is the largest tributary of the Ganga River.
- ❖ It originates from the Yamunotri glacier, at the Bandarpooch peak in Uttarakhand.
- ❖ The main tributaries joining the river include the Sin, Hindon, Betwa Ken, and Chambal.
- ❖ The Tons is the largest tributary of the Yamuna.
- ❖ The catchment of the river extends to the states of Delhi, Himachal Pradesh, Uttar Pradesh, Haryana, Rajasthan, and Madhya Pradesh.

## **The Narmada River System**

- ❖ The Narmada is a river located in central India.
- ❖ It rises to the summit of the Amarkantak Hill in Madhya Pradesh state.
- ❖ It outlines the traditional frontier between North India and South India.
- ❖ It is one of the major rivers of peninsular India. Only the Narmada, the Tapi, and the Mahi rivers run from east to west.
- ❖ The river flows through the states of Madhya Pradesh, Gujarat, and Maharashtra.
- ❖ It drains into the Arabian Sea in the Bharuch district of Gujarat.

## **The Tapi River System**

- ❖ It is a central Indian river. It is one of the most important rivers of peninsular India with the run from east to west.
- ❖ It originates in the Eastern Satpura Range of southern Madhya Pradesh state.
- ❖ It flows in a westward direction, draining some important historic places like Madhya Pradesh's Nimar region, East Vidarbha region and Maharashtra's Khandesh in the northwest corner of the Deccan Plateau and South Gujarat before draining into the Gulf of Cambay of the Arabian Sea.
- ❖ The River Basin of Tapi River lies mostly in eastern and northern districts Maharashtra state.
- ❖ The river also covers some districts of Madhya Pradesh and Gujarat as well.
- ❖ The principal tributaries of Tapi River are Waghur River, Aner River, Girna River, Purna River, Panzara River and Bori River.

## **The Godavari River System**

- ❖ The Godavari River is the second-longest course in India with brownish water.
- ❖ The river is often referred to as the Dakshin (South) Ganga or Vriddh (Old) Ganga.



- ❖ It is a seasonal river, dried during the summers, and widens during the monsoons.
- ❖ This river originates from Trimbakeshwar, near Nasik in Maharashtra.
- ❖ It flows southeast across south-central India through the states of Madhya Pradesh, Telangana, Andhra Pradesh, and Orissa, and drains into the Bay of Bengal.
- ❖ The river forms a fertile delta at Rajahmundry.
- ❖ The banks of this river have many pilgrimage sites, Nasik(MH), Bhadrachalam(TS), and Trimbak. Some of its tributaries include Pranahita (Combination of Penuganga and Warda), Indravati River, Bindusara, Sabari, and Manjira.
- ❖ Asia's largest rail-cum-road bridge which links Kovvur and Rajahmundry is located on the river Godavari.

## The Krishna River System

- ❖ Krishna is one of the longest rivers of India, which originates from Mahabaleshwar in Maharashtra.
- ❖ It flows through Sangli and drains the sea in the Bay of Bengal.
- ❖ The river flows through the states of Maharashtra, Karnataka, Telangana and Andhra Pradesh.
- ❖ Tungabhadra River is the main tributary which itself is formed by the Tunga and Bhadra rivers that originate in the Western Ghats.
- ❖ Dudhganga Rivers, Koyna, Bhima, Mallaprabha, Dindi, Ghataprabha, Warna, Yerla, and Musi are some of the other tributaries.

## The Cauvery River System

- ❖ The Cauvery is also known as Dakshin Ganga.
- ❖ It originates from Talakaveri located in the Western Ghats.
- ❖ It is a famous pilgrimage and tourist place in the Kodagu district of Karnataka.
- ❖ The headwaters of the river are in the Western Ghats range of Karnataka state, and from Karnataka through Tamil Nadu.
- ❖ The river drains into the Bay of Bengal. The river supports irrigation for agriculture and is considered as a means of support of the ancient kingdoms and modern cities of South India.
- ❖ The river has many tributaries called Arkavathy, Shimsha, Hemavati, Kapila, Shimsha, Honnuhole, Amaravati, Lakshmana Kabini, Lokapavani, Bhavani, Noyyal, and Tirtha.

## The Mahanadi River System

- ❖ The Mahanadi originates from the Satpura Range of central India and it is a river in eastern India.
- ❖ It flows east to the Bay of Bengal. The river drains of the state of Maharashtra, Chhattisgarh, Jharkhand, and Orissa.
- ❖ The largest dam, the Hirakud Dam is built on the river.

## Complete List of Rivers | Their Lengths, Origins, and Tributaries

| S.No | Rivers | Origin                                     | Length (km) | End                                                               |
|------|--------|--------------------------------------------|-------------|-------------------------------------------------------------------|
| 1.   | Ganga  | Gangotri Glacier (Bhagirathi), Uttarakhand | 2,525       | Bay of Bengal                                                     |
| 2.   | Yamuna | Yamunotri Glacier, Uttarakhand             | 1,376       | Merges with Ganga at Allahabad (Triveni Sangam - Kumbh Mela spot) |

|    |             |                                                                   |       |                                                                             |
|----|-------------|-------------------------------------------------------------------|-------|-----------------------------------------------------------------------------|
| 3. | Brahmaputra | Himalayan Glacier in Tibet, but enters India in Arunachal Pradesh | 1,800 | Merges with Ganga and ends in Bay of Bengal                                 |
| 4. | Chambal     | Tributary of Yamuna river, starting at Madhya Pradesh             | 960   | Joins Yamuna river in UP                                                    |
| 5. | Son         | Tributary of Ganga, starting at Amarkantak, Madhya Pradesh        | 784   | Joins Ganga just above Patna - also considered part of Vindhya river system |
| 6. | Gandak      | Nepal; Ganges tributary at Indo-Nepal                             | 630   | Joins Ganga near Patna                                                      |

|     |                 |                                                  |      |                                            |
|-----|-----------------|--------------------------------------------------|------|--------------------------------------------|
|     |                 | border (Triveni Sangam)                          |      |                                            |
| 7.  | Kosi            | Starts from Bihar near Indo-Nepal border         | 720  | Joins Ganga near Katihar district of Bihar |
| 8.  | Betwa           | Tributary of Yamuna, rises at Vindhya region, MP | 590  | Joins Yamuna at Hamirpur in UP             |
| 9.  | Gomti           | Tributary of Ganga, starting at Gomat Taal, UP   | 900  | Joins Ganga in Varanasi district           |
| 10. | Ghaghara        | Himalayan Glacier in Tibet, tributary of Ganga   | 1080 | Joins Ganga in Bihar                       |
| 11. | Hugli (Hooghly) | Tributary of Ganga near West Bengal              | 260  | Merges with Ganga at Bay of Bengal         |
| 12. | Damodar         | Tributary of Hugli near Chandwara, Jharkhand     | 592  | Merges with Hugli in West Bengal           |



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|-----|------------|-----------------------------------------------------------|------|----------------------------------------|
| 13. | Mahananda  | Paglajhora falls, Darjeeling, West Bengal                 | 360  | Merge in Ganga                         |
| 14. | Alaknanda  | Satopanth & Bhagirathi-Kharak glacier                     | 190  | Merge in Ganga, Devprayag, Uttarakhand |
| 15. | Bhagirathi | Gaumukh, Uttarakhand                                      | 205  | Merge in Ganga, Devprayag, Uttarakhand |
| 16. | Indus      | Originates in Tibetan plateau, Enters India in J&K        | 3180 | Merges into Arabian sea near Sindh     |
| 17. | Chenab     | Upper Himalayas in the Spiti district of Himachal Pradesh | 960  | Merges with Indus                      |
| 18. | Jhelum     | Tributary of Chenab river, Punjab                         | 725  | Merges with Chenab at Jhang (Pakistan) |
| 19. | Ravi       | Starts from Bara Bhangal, Kangra                          | 720  | Joins Chenab in Pakistan               |

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|     |         | district, Himachal Pradesh                                |      |                                                                  |
| 20. | Sutlej  | Tributary of Indus river, originates at Rakshastal, Tibet | 1500 | Meets Beas river in Pakistan and ends at Arabian sea             |
| 21. | Beas    | Rises at Himalayas in central Himachal Pradesh            | 470  | Joins Sutlej river in Punjab, India                              |
| 22. | Parbati | Mantalai Glacier near Pin Prabati Pass                    | -    | Mixes with Beas River at Bhuntar, near Kullu of Himachal Pradesh |
| 23. | Suru    | Panzella Glacier, Pensi La Pass, Kargil                   | 185  | Indus, Nurla, Skardu, Pakistan                                   |
| 24. | Dras    | Machoi Glacier, Zoji La, ear Sonamarg, Jammu & Kashmir    | 86   | Suru River at Kharul, Kargil                                     |

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|-----|-------------|---------------------------------------------------------------------|------|----------------------------------------------------------------------|
| 25. | Zaskar      | Doda River (First Branch), Kargyag and Tsarap River (Second Branch) | -    | Indus River near Nimmu in Ladakh                                     |
| 26. | Tsarap      | Pankpo La, Sarchu                                                   | 182  | Zaskar River, Padum, Kargil                                          |
| 27. | Doda        | Drang-Drung Glacier, Pensi La                                       | 79   | Zaskar River, Padum, Kargil                                          |
| 28. | Kaveri      | Talakaveri in Western Ghats in Karnataka                            | 765  | Ends in Bay of Bengal                                                |
| 29. | Krishna     | Originates in the Western Ghats near Mahabaleshwar in Maharashtra   | 1400 | Ends in Bay of Bengal near Andhra Pradesh                            |
| 30. | Godavari    | Starts in Maharashtra and passes through 7 Indian states            | 1465 | Empties in Bay of Bengal                                             |
| 31. | Tungabhadra | Tributary of Krishna river starting at Karnataka                    | 531  | Joins Krishna river along the border of Telangana and Andhra Pradesh |



|     |                |                                                             |      |                                                                 |
|-----|----------------|-------------------------------------------------------------|------|-----------------------------------------------------------------|
| 32. | Tapti          | Rises in Eastern Satpura Ranges, Madhya Pradesh             | 724  | Empties into Gulf of Khambhat, Gujarat                          |
| 33. | Mahi           | Rises in Madhya Pradesh                                     | 580  | Flows into Arabian sea from Gujarat                             |
| 34. | Narmada        | Starts from Amarkantak, Madhya Pradesh                      | 1315 | Drains into Arabian sea via Gulf of Cambay                      |
| 35. | Indravati      | Dandakaranya range, Kalahandi district, Odisha              | 535  | Godavari near border of Maharashtra, Chhattisgarh and Telangana |
| 36. | Pranhita       | Confluence of Wardha and Wainganga, near Sirpur Kaghaznagar | 113  | Godavari, near Kaleshwaram, Telangana                           |
| 37. | Wardha         | Satpura range, Multai, Betul district of Madhya Pradesh     | 528  | Pranhita River                                                  |
| 38. | Kolab (Sabari) | Sinkaran hills, Koraput, Odisha                             | 200  | Godavari                                                        |

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|-----|-------------|--------------------------------------------------------|-----|------------------------------------------------|
| 39. | Manjira     | Balaghat hills                                         | 724 | Godavari, near Kandakurthi, Karnataka          |
| 40. | Wainganga   | Satpura range, Mundara, Seoni district, Madhya Pradesh | 579 | Pranhita River                                 |
| 41. | Painganga   | Ajanta range, Aurangabad, Maharashtra                  | 676 | Wardha river, Chandrapur district, Maharashtra |
| 42. | Vedavathi   | Confluence of Veda and Avathi                          | -   | Tungabhadra river, near Siruguppa              |
| 43. | Bhima       | Bhimashankar                                           | 861 | Krishna river, near raichur                    |
| 44. | Indrayani   | Lonavala, Maharashtra                                  |     | Bhima river                                    |
| 45. | Pavana      | Sahyadri range, Lonavala Maharashtra                   | 58  | Mula river                                     |
| 46. | Ghataprabha | Western ghats, Sindhudurg, Maharashtra                 | 283 | Krishna river, Almatti                         |

|     |          |                                             |     |                                                                 |
|-----|----------|---------------------------------------------|-----|-----------------------------------------------------------------|
| 47. | Venna    | Mahabaleshwar,<br>Maharashtra               | 130 | Krishna river,<br>Satara,<br>Maharashtra                        |
| 48. | Koyna    | Mahabaleshwar,<br>Maharashtra               | 130 | Krishna river,<br>near Karad,<br>Satara                         |
| 49. | Amravati | Anamalai hills, Pambar,<br>Chinnar rivers   | 282 | Kaveri river at<br>Karur, Tamil<br>Nadu                         |
| 50. | Bhavani  | Silent valley National<br>Park, Kerala      | 135 | Kaveri river at<br>Kongu Nadu<br>region of<br>Tamil Nadu        |
| 51. | Hemavati | Western Ghats,<br>Chikmagalur,<br>Karnataka | 245 | Kaveri river<br>near Krishna<br>Raja Sagara,<br>Karnataka       |
| 52. | Mahanadi | Dhamtari,<br>Dandakaranya,<br>Chhattisgarh  | 858 | Bay of Bengal,<br>near False<br>Point,<br>Kendrapara,<br>Odisha |



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| 53. | Subarnarekha   | Chota Nagpur plateau, near Ranchi, Jharkhand        | 395 | Kirtania Port, near Talsari, Bay of Bengal    |
| 54. | Kangsabati     | Chota Nagpur plateau, Purulia district, West Bengal | 465 | Bay of Bengal near Haldia                     |
| 55. | Penner (Penna) | Nandi Hills, Chikkaballapur district, Karnataka     | 597 | Bay of Bengal, near Nellore, Andhra Pradesh   |
| 56. | Palar          | Nandi hills, Kolar district Karnataka               | 348 | Bay of Bengal, near Vayalur, Tamil Nadu       |
| 57. | Vaigai         | Varusanadu Hills, Tamil Nadu                        | 258 | Palk Strait, Tamil Nadu                       |
| 58. | Vellar         | Shevaroy Hills                                      | 150 | Bay of Bengal, near Parangipettai, Tamil Nadu |
| 59. | Ponnaiyar      | Nandidurg, Chikkaballapur                           | 400 | Bay of Bengal                                 |

|     |           |                                                            |     |                                                                |
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| 60. | Noyyal    | Velliangiri Hills,<br>Western Ghats, Tamil<br>Nadu         | 180 | Kaveri river                                                   |
| 61. | Gomai     | Satpura Range                                              | -   | Tapti river,<br>near<br>Prakasha,<br>Nandurbar,<br>Maharashtra |
| 62. | Panzara   | Near Pimpalner,<br>Dhule, Maharashtra                      | -   | Tapti river                                                    |
| 63. | Purna     | Satpura Range, Betul,<br>Madhya Pradesh                    | -   | Tapti river,<br>near<br>Changdev,<br>Maharashtra               |
| 64. | Kolar     | Vindhya Range, near<br>Sehore district,<br>Madhya Pradesh  | 101 | Narmada, near<br>Raisen district<br>of Madhya<br>Pradesh       |
| 65. | Tawa      | Satpura Range, Betul,<br>Madhya Pradesh                    | 172 | Narmada near<br>Hoshangabad<br>district                        |
| 66. | Sabarmati | Dhebar lake, Aravalli<br>range, near Udaipur,<br>Rajasthan | 371 | Gulf of<br>Khambhat                                            |

|     |           |                                         |     |                                                               |
|-----|-----------|-----------------------------------------|-----|---------------------------------------------------------------|
| 67. | Zuari     | Hemad-Barshem in western ghats          | 34  | Arabian sea                                                   |
| 68. | Ulhas     | Near Rajmachi hills, Sahyadri range     | 122 | Vasai creek, Mumbai                                           |
| 69. | Mithi     | Vihar lake and Powai lake               | 15  | Arabian sea, Mahim creek, Mumbai                              |
| 70. | Mandovi   | Bhimgad, Karnataka                      | 77  | Arabian sea                                                   |
| 71. | Kali      | Kushavali, Karnataka                    | 184 | Arabian sea                                                   |
| 72. | Netravati | Kudremukh, Chikmagalur, Karnataka       | -   | Arabian sea, near Mangalore, Karnataka                        |
| 73. | Sharavati | Western Ghats, Tirthahalli, Karnataka   | 128 | Arabian sea, near Honnavar, Uttar Kannada district, Karnataka |
| 74. | Periyar   | Sivagiri hills, Sundaramala, Tamil Nadu | 244 | Lakshadweep sea, Kerala                                       |

|     |                    |                                                        |     |                                        |
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| 75. | Bharathappu<br>zha | Anamalai Hills, Tamil<br>Nadu                          | 209 | Lakshadweep<br>sea, Ponnani,<br>Kerala |
| 76. | Pamba              | Pulachimalai Hills,<br>Western Ghats                   | 176 | Vembanad<br>Lake                       |
| 77. | Chaliyar           | Elambaleri Hills,<br>Western Ghats,<br>Wayanad, Kerala | 169 | Lakshadweep<br>sea, Kerala             |