Geography of Uttar Pradesh: UPPSC Notes

Many state commissions are modelling their syllabus and/or exam pattern with that of the Union Public Service Commission. Therefore, aspirants who want to take the UPPSC exam should strategise their UPPSC preparation in coordination with the UPSC IAS Exam preparation. The primary distinction between preparing for the UPSC exam and the UP PCS exam is that in the latter, candidates are required to learn specifics about the state of Uttar Pradesh, including its history, geography, politics, and current affairs.

UPPSC stands for Uttar Pradesh Public Service Commission. The state services examination to select candidates for the Group A and Group B services of the UP state government is rightfully under its authority. To know in detail about the UPPSC PCS Exam, candidates can go to the linked article. In this article, the Geography of Uttar Pradesh is discussed in detail, in order to help aspirants prepare for the UPPSC PCS exam.

About Uttar Pradesh

Located in the north-central region of India, Uttar Pradesh is India’s fourth-largest state by land area and is the most populous region. It covers a huge area, and the plains of the state are very different from the high mountains in the north. Due to its enormous population and dynamic socioeconomic demography, Uttar Pradesh has always had significant political relevance in the Indian democracy. Owning to its distance from the sea’s moderating influence and the occasional appearance of cold air brought on by western disturbances, this state’s climate can vary greatly.

U.P. was created in the year 1937 by the British regime under the name of United Provinces and post-independence it was renamed Uttar Pradesh in 1950. A total of 18 divisions and 75 districts constitute this state, whose northern portion was carved out in the year 2000 to form Uttarakhand, the 27th state of India. The state’s economy is primarily based on agriculture, earning it the moniker "The Rice Bowl of India". Some facts related to the state are given below:

- The capital of the state is Lucknow.
- The High Court of Uttar Pradesh is: Allahabad High Court
- The official language of the state is Hindi while other languages that are used in the state are Urdu, Awadhi, Bundeli, Bhojpuri, etc.
- The area of the state is: 243,286 km² (4th largest in India).
  - Districts: 75
  - Cities and Towns: 915
  - Development blocks: 822
  - Nagar Nigams: 17
- Population: 19,9,812,341 (Most populous in India)
- Population Density: 829 per square km
- Sex Ratio: 912 per thousand
- Literacy rate: 69.72%
  - Male literacy: 79.24%
  - Female literacy: 59.26%

Geomorphological Structure of Uttar Pradesh: Physiography

Uttar Pradesh is a frontier state located in the north-central of India. It is located between 23°52’ to 30°24’ northern latitude and 77°05’ to 84°38’ east longitude. It measures 650 km from east to west and 240 km from south to north. Uttar Pradesh has a total area of 243,286 km² sq km, which is 7.33% of the total area of India. Other geographical features of the state are given below:

Location:
• The position of Uttar Pradesh in terms of area is fourth after Rajasthan, Madhya Pradesh and Maharashtra respectively.
• The urban area of Uttar Pradesh is 2.70% (6,558 sq km) of its total geographical area.
• Nine states / Union Territories touch the boundary of the state:
  o Himachal Pradesh
  o Haryana, Rajasthan
  o Madhya Pradesh
  o Chhattisgarh
  o Jharkhand
  o Bihar
  o Uttarakhand
• The border UP shares with Himachal Pradesh is the smallest.
• Madhya Pradesh shares the longest border with Uttar Pradesh.
• The Union Territory which shares a border with Uttar Pradesh is Delhi.
• The state also shares a border with Nepal. The total border length of Nepal touching UP is 579 km. There are seven districts of Uttar Pradesh which lie adjacent to the Nepal border:
  o Maharajganj
  o Sidharthanagar
  o Balrampur
  o Shravasti
  o Bahraich
  o Lakhimpur
  o Pilibhit
• Two districts of Uttar Pradesh touching the boundary of Delhi are Ghaziabad and Gautam Buddha Nagar (NOIDA).
• There are six districts of Uttar Pradesh which touch the boundary of Haryana state:
  o Saharanpur
  o Shamli
  o Bagpat
  o Gautam Buddh Nagar
  o Aligarh
  o Mathura
• There are districts of Uttar Pradesh which share a border with Uttarakhand state. The seven districts are
  o Saharanpur
  o Muzaffar Nagar
  o Bijnor
  o Moradabad
  o Rampur
  o Bareli
  o Pilibhit
• The districts of Uttar Pradesh which share the boundary of Rajasthan: Agra and Mathura.
• There are eleven districts of Uttar Pradesh sharing the borders of Madhya Pradesh:
  o Agra
  o Etawah
  o Jalna
  o Jhansi
  o Lalitpur
  o Mahombha
  o Banda
Seven districts of Uttar Pradesh sharing the borders with Bihar state are:
- Sonbhadra
- Chandauli
- Ghazipur
- Ballia
- Deoria
- Kushinagar (Padrauna)
- Maharajganj.

Only one district of Uttar Pradesh touch the boundary of Jharkhand and Chattisgarh: Sonbhadra.

There are four states lying adjacent to the border of Sonbhadra district:
- M.P.
- Chhattisgarh,
- Jharkhand,
- Bihar

There are three states lying adjacent to the Saharanpur district of Uttar Pradesh:
- Haryana
- Himachal
- Uttarakhhand

States touching the eastern and western parts of the state: Bihar and Haryana.

State touching the southernmost point of Uttar Pradesh: Chhattisgarh.

The four districts which have the largest area in decreasing order are Khiri > Sonbhadra> Hardoi> Sitapur.

Yamuna River determines the boundary between Haryana and Uttar Pradesh.

Landform:
The elevation of Uttar Pradesh varies from 300 to 5000 metres, and they feature highly rugged terrain. The Siwalik range in Uttar Pradesh descends to the Bhabhar region, a porous bed of coarse pebbles and boulders that rivers flowing down the Siwalik hills have brought down.
The river streams have a tendency to sink into these porous sedimentary strata. The Bhabhar tract progressively changes into the Terai region as it runs along the periphery of the Siwalik foothills. This transitional region, known as the “Terai and Bhabhar area,” is distinguished by rich forests and numerous river streams.

Uttar Pradesh can be classified into three main topographical regions based on its geomorphology:
1. **Gangetic plain**: Gangetic plains constitute the major central portion of the state.
2. **Bhabar - Terai region**: Siwalik foothills of the Himalayas and the Terai region border U.P. on the north.
3. **Plateau of the South**: Vindhya Range and plateau lie in a relatively smaller part of southern U.P.

**Gangetic Plain**
Gangetic plains are characterised by flat topography and highly fertile soil. It has been made from alluvium soil.

- The two-river system called the Ganges which includes Ganga and Yamuna and their tributaries, flows down the Himalayas. The elevation of Ganga Yamuna is 300 m from sea level.
This two river system is what creates the alluvial deposits that enrich the soil in the Gangetic plains, making it ideal for producing crops like rice, wheat, barley and gram, among others.

These plains cover the majority of the state’s core region and makeup nearly three-fourths of the state’s total area, running from east to west.

With elevations ranging from 60 metres in the east to 300 metres in the northwest, and a gradient of 2 metres per square kilometre, it has a flat landscape that includes several physical features including rivers, lakes, and ponds.

The Gangetic plains are composed of the Ganga-Yamuna Doab, the Ganges plains, the Terai and the Ghaghra plains. This vast area of alluvial topography is divided into three sub-regions:

- **Western tract:** Because of its excellent water resources and irrigation infrastructure, this region has a well-developed agricultural sector.
- **Central tract:** Despite being extensively irrigated, the central tract experiences water logging.
- **Eastern tract:** Due to its recurring famines and floods, as well as the inadequate irrigation of its agricultural regions, the eastern part of the Gangetic plains is categorised as a scarcity region. This tract has a total of 14 districts.

**Shivalik Hills and Terai Region**

- The Himalayan foothills in the south, which border the U.P. in the north, are formed by the Siwalik Range. This area is flat and moist and extends from Saharanpur in the northwest to Kushinagar in the east.
- The Terai region is a lowland terrain that runs parallel to the Bhabhar tract and is dispersed with marshes, dense forests, swamps rich in clay, and tall grasses.
- Swamp Field is found here due to excessive rainfall. Sand, clay, silt, and gravel make up the majority of the fine alluvium that constitutes this area.
- Massive floods are brought on by the submerged river streams of Bhabhar that reappear on the surface as the rivers run down the slopes of Bhabhar and across the comparatively flat plains of Terai, depositing sediment in shallow beds.
- The width of Bhabhar is between 8-16 km and the width of Terai is 15-30 km.

**Vindhya Range and Plateau Region**

- The Vindhya are a discontinuous range of hills and mountains. The total area of this area is 45200 square kilometres.
- The toughest and most varied topography of hills, highlands, and plateaus can be found in the southernmost stratum of the Gangetic plains in Uttar Pradesh.
- The terrain of Bundelkhand and Baghelkhand is included in the plateau region of the south.
- This low-lying range, which has an average height of 300m, experiences few rainfalls and lacks sufficient water resources, leading farmers in the area to practise dry farming.
- The following 4 divisions are covered by the canopy of this area:
  - **Bundelkhand plateau:** Jhansi, Jalaun, Banda, Hamirpur
  - **Chakia Tehsil** of Varanasi district
  - **Mirzapur** district
  - Tehsils of **Allahabad** district

**Climate Of Uttar Pradesh: Climatology**

The climate of Uttar Pradesh is predominantly **Tropical monsoon type**. However, there is a difference in the climate because of the various anomalies and heights of various locations above sea level. The facts related to the climate of Uttar Pradesh are as follows:
• **Climate Type:** Tropical monsoon or Humid subtropical with dry winters

• **Temperature range:** The average temperature varies in the plains from 3°C to 4°C in January to 43°C to 45°C in May and June.

• **Meteorological Subdivisions:** U.P. East and U.P. West

• **Seasons:**
  o **Summer/Thunderstorm/Pre-monsoon:**
    ▪ Span: March to May
    ▪ Temperature range: 45°C – 48°C
    ▪ Features: Hot & Dry, Dust laden storms, Low Relative Humidity
  o **South-West Monsoon:**
    ▪ Span: June-September
    ▪ Temperature Range: 40°C – 45°C
    ▪ Rainfall: 1279 mm (85% of average annual rainfall)
  o **Winter:**
    ▪ Span: October – February
    ▪ Temperature Range: 0°C – 4°C
    ▪ Features: Foggy conditions

Given significant climatic differences, U.P. has been divided into two meteorological sub-divisions - U.P. East and U.P. West. There are three main seasons in Uttar Pradesh: Summer, Winter and Monsoon.

Each of the seasons is explained below:

• **Summers:** The summer months are from mid-March until mid-June. The average high temperature in summer is 36°C to 39°C. And average low is 21°C to 23°C minimum. In Bundelkhand, the average temperature is the highest. This is due to the area’s proximity to the Tropic of Cancer. Summers are hot and dry with temperatures rising sometimes to 45°C up to 48 °C. The season is marked by low relative humidity (20%) and dust-laden winds.

• **Winter:** November through February is considered the winter season. January is the coldest month of the year. In the cold season, the temperatures drop to 3-4°C, sometimes below -1°C. In general, winters are characterised by clear skies and foggy conditions in some tracts.

• **South-West Monsoon:** The rainy season is from the last week of June to October. The months of July and August receive the most rain. 85% of the average annual rainfall occurs in the south-west monsoon season. The average temperature is between 25°C and 34°C at its highest and lowest points, respectively.
  o The districts with the highest and lowest rainfall are Gorakhpur (184.7 cm) and Mathura (54.4 cm).
  o Northern and Eastern regions receive the highest rainfall, which gradually decreases as we move to the southern and western U.P.
  o Average yearly rainfall in the state’s various regions:
    ▪ Lowland area 150 cm,
    ▪ Eastern plains 112 cm,
    ▪ Intermediate plains 94 cm,
    ▪ Western plains area 84 cm,
    ▪ Southern hill plateau area 91 cm.

• **Retreating Monsoon** season, although existent, has a very negligible effect in Uttar Pradesh and only occasional mild showers are experienced in winter. Some of these showers are not even due to the Monsoon but due to western disturbances.
Water Resources of Uttar Pradesh: Hydrology

The major sources of surface water in Uttar Pradesh are the Ganges and its tributaries flowing from the northwest to the southeast direction. Ganges, Yamuna, Ghagra, Gomti, Gandak, Son, Kosi and Sarda are some major rivers flowing through Uttar Pradesh. The basin formed is the Ganga sub-basin of the Ganga-Brahmaputra-Meghna Basin. Some important facts related to the water resources of Uttar Pradesh are:

- **Groundwater**: Uttar Pradesh is the largest user of Groundwater repositories. A very rich groundwater reserve exists in the form of several aquifer systems on alluvial plains. However, Bundelkhand lacks any major underground water storage areas. The gross groundwater withdrawal in Uttar Pradesh is 5.28 million hectare metres.

- **Hydrogeological Units**:
  - Bhabhar
  - Central Ganga plains
  - Marginal alluvial plains
  - Terai
  - Southern Peninsular zone (starting from north to south successively)

- **Irrigation**: The plains are largely irrigated by vast stretches of canals and reservoirs that were built on the banks of the Ganges' northern and southern tributaries. A few "scarcity regions" are watered with groundwater using borewells. Only the eastern tract uses rainwater for irrigation. However, the Ganges River side lacks a reservoir.

**List of Major Dams, Lakes and Rivers in Uttar Pradesh**

**Dams and Reservoirs**:
- **Major projects**: Parichha Dam and Govind Ballabh Pant Sagar dam.
- **Largest man-made reservoir in India**: Govind Ballabh Pant Sagar Dam.
- **Some other projects**: Matalita Dam, Bhainsora Dam, Bachara Dam, Bhagwanpur Dam, Baghla Dam, Chittaurgarh Dam, Ganeshpur Dam, etc.
- **Main objective**: Storage, power generation, irrigation and drinking water supply.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Dam</th>
<th>Location</th>
<th>River</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Govind Sagar Dam</td>
<td>Lalitpur</td>
<td>Shahzad River</td>
<td>Irrigation</td>
</tr>
<tr>
<td>2.</td>
<td>Jamini Dam</td>
<td>Mahrauni, Lalitpur</td>
<td>Jamni River</td>
<td>Irrigation</td>
</tr>
<tr>
<td>3.</td>
<td>Matalita Dam</td>
<td>Lalitpur District</td>
<td>Betwa River</td>
<td>Irrigation</td>
</tr>
<tr>
<td>5.</td>
<td>Rihand/Govind Ballabh Pant Sagar Dam</td>
<td>Pipri, Sonbhadra</td>
<td>Rihand-tributary of Son</td>
<td>Electricity generation</td>
</tr>
<tr>
<td>S.No</td>
<td>Lake</td>
<td>Type</td>
<td>Location</td>
<td>Description</td>
</tr>
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<td>--------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Bela Sagar Tal</td>
<td>Artificial</td>
<td>Kulpahar, Belatal</td>
<td>Locally called as Bela Taal.</td>
</tr>
<tr>
<td>2.</td>
<td>Chittaura Jheel</td>
<td>Natural</td>
<td>Chittaura village, Bharaich</td>
<td>Tera nadi flows from it.</td>
</tr>
<tr>
<td>3.</td>
<td>Darwan Lake</td>
<td>Natural</td>
<td>Hathpakad &amp; Katehri</td>
<td>—</td>
</tr>
<tr>
<td>4.</td>
<td>Gokul Barrage</td>
<td>Barrage</td>
<td>Gokul, Mathura</td>
<td>Also called Mathura barrage is a barrage on Yamuna River</td>
</tr>
<tr>
<td>5.</td>
<td>Keetham Lake</td>
<td>Artificial</td>
<td>Agra-Delhi highway</td>
<td>Declared National Bird Sanctuary</td>
</tr>
<tr>
<td>6.</td>
<td>Barua Sagar Tal</td>
<td>Artificial</td>
<td>Jhansi</td>
<td>Near Fort of Bundelkhand</td>
</tr>
<tr>
<td>7.</td>
<td>Moti Jheel</td>
<td>Artificial</td>
<td>Benajhabar, Kanpur</td>
<td>Referred to as ‘Lungs of Kanpur’</td>
</tr>
<tr>
<td>8.</td>
<td>Raja Ka Tal</td>
<td>Reservoir</td>
<td>NH 19</td>
<td>Also called as Bara Taal.</td>
</tr>
<tr>
<td>9.</td>
<td>Ramgarh Taal Lake</td>
<td>Natural</td>
<td>Gorakhpur</td>
<td>Came to existence from remains of Rapti River</td>
</tr>
</tbody>
</table>

Lakes:
- The lakes of the state provide water to isolated locations, small cities and rural villages including the remote areas.
- The Uttar Pradesh Forest Department is in charge of looking after the lakes in the state.
- Numerous migratory bird species, including siberian cranes, greater flamingos, surkhabs, and others, flock these lakes every year.
Rivers: The state of Uttar Pradesh has got thirty one rivers flowing through the place, which includes both long as well as small rivers. This state is traversed by some of India’s most significant rivers, including the Sarayu, Yamuna, Ghaghara, and the Ganga. The list of some of the most important rivers are:

<table>
<thead>
<tr>
<th>S.No</th>
<th>River</th>
<th>Source</th>
<th>Length</th>
<th>Mouth</th>
<th>States flowing through</th>
<th>Dam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chambal</td>
<td>Janapav hills, Vindhya range</td>
<td>960 km</td>
<td>Ganges</td>
<td>Madhya Pradesh, Rajasthan</td>
<td>Rana Pratap Sagar Dam, Gandhi Sagar Dam</td>
</tr>
<tr>
<td>2.</td>
<td>Gandak</td>
<td>Nhubine Himal Glacier</td>
<td>630 km</td>
<td>Ganges</td>
<td>Tibet, Nepal</td>
<td>–</td>
</tr>
<tr>
<td>3.</td>
<td>Ganga</td>
<td>Gangotri, Uttarakhand</td>
<td>2525 km</td>
<td>Ganges Delta</td>
<td>Uttarakhand, Bihar, Jharkhand, W.B.</td>
<td>–</td>
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<tr>
<td>4.</td>
<td>Ghaghara</td>
<td>Mapchachungo glacier, Tibet</td>
<td>1080 km</td>
<td>Ganges</td>
<td>Uttar Pradesh and Bihar</td>
<td>–</td>
</tr>
<tr>
<td>5.</td>
<td>Gomti</td>
<td>Gomat Taal</td>
<td>900 km</td>
<td>Ganges</td>
<td>Uttar Pradesh</td>
<td>–</td>
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<tr>
<td>6.</td>
<td>Ken</td>
<td>Ahirgawan Kaimur range, Jbalpur</td>
<td>427 km</td>
<td>Ganges</td>
<td>Madhya Pradesh</td>
<td>–</td>
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<tr>
<td>7.</td>
<td>Kosi</td>
<td>Sun Kosi</td>
<td>729 km</td>
<td>Ganges</td>
<td>Tibet, Nepal, Bihar</td>
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<tr>
<td>8.</td>
<td>Betwa</td>
<td>Vindhya range</td>
<td>590 km</td>
<td>Ganges</td>
<td>Madhya Pradesh</td>
<td>Rajghat Dam Parichha Dam, Matala Dam</td>
</tr>
</tbody>
</table>
### Flora and Fauna of Uttar Pradesh

The state of Uttar Pradesh has a variety of Flora and Fauna because of its diverse climate and relief, which adds to the state's bounty of natural resources. However, there is widespread deforestation and poaching in the state as well.

**Fauna:** The avifauna of Uttar Pradesh is abundant (birds). There are also plenty of land animals, amphibians, and reptiles in this area. Go through the following facts about the fauna of the state:

- **Barasingha or Swamp Deer** is the state animal. These stags' antlers typically have 12 tines, but they can occasionally have 20 tines.
- **Dudhwa National Park** is home to the largest wildlife reserve (500 sq km). It is located in Uttar Pradesh's Lakhimpur Kheri district. It is the only location in U.P. where it is possible to see both tigers and rhinos together.
- **Terrestrial Animals:** Tiger, leopard, wild bear, sloth bear, elephant, gond, para, chinkara, sand grouse, musk deer, brown bear, chital, sambhar, jackal, porcupine, jungle cat, hare, squirrel, monitor, lizard and fox.
- **Most Common Birds:** Crow, pigeon, dove, jungle fowl, black partridge, house sparrow, peafowl, blue jay, parakeet, kite, myna, quail, bulbul, snipe, comb duck, grey duck, whistling teal, kingfisher and woodpecker.
- **Aquatic Animals:** Fishes: Mahaser, Saul, Parthan, Vittal, Mirgal, Labi, Cuchia, Einghi, Trout, Hilsa, Tengan, Rasela, Rohu, Kata, Mangur, Eel and Mirror Carp.
- **Reptiles:** Bamania, Lizard, Cobra, Krait, Crocodile, Pit-viper, Goh, Tortoise and Dhaman.
- **Endangered Species:** Some of the animal species in Uttar Pradesh have become extinct in the recent years. For example animals like the lions from the Gangetic plain and rhinoceros from the terai region have become endangered. Some of the animals in the state are invariably subject to poaching in spite of strong orders from the government. Many of the animals like black buck, musk deer, swamp deer, four horned antelope and mural pheasants are on their way of extinction.

**Major National Parks and Wildlife Sanctuaries:** Hastinapur Wildlife Sanctuary, Katerniaghat Wildlife Sanctuary, Kishanpur Wildlife Sanctuary, Dudhwa National Park (Tiger Reserve), Bakhira Wildlife Sanctuary, Chandraprabha Wildlife Sanctuary, Dr. Bhimrao Ambedkar Bird Wildlife Sanctuary, Mahavir Swami Wildlife Sanctuary, National Chambal Wildlife Sanctuary, Lakh Bahosi Bird Wildlife Sanctuary, etc.

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<tbody>
<tr>
<td>9.</td>
<td>Sarda</td>
<td>Kalpani</td>
<td>350 km</td>
<td>Ganges</td>
<td>Uttarakhand</td>
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<td>10.</td>
<td>Son</td>
<td>Amarkantak</td>
<td>784 km</td>
<td>Ganges</td>
<td>Madhya Pradesh, Jharkhand, Bihar</td>
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<td>11.</td>
<td>Yamuna</td>
<td>Yamunotri</td>
<td>1376 km</td>
<td>Ganges</td>
<td>Uttarakhand, Himachal Pradesh, Haryana, Delhi</td>
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## List of Major National Parks and Wildlife Sanctuaries of Uttar Pradesh

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of National Park/Wildlife Sanctuary</th>
<th>Important Features</th>
<th>Special Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mahavir Swami Wildlife Sanctuary</td>
<td>A unique feature of this Sanctuary is a group of 41 Jain Temples covering an area of approximately 8 acres in its midst</td>
<td>leopard, nilgai, wild boar, and sambhar</td>
</tr>
<tr>
<td>2</td>
<td>Dudhwa National Park</td>
<td>Dudhwa National Park is the only National Park and Tiger Reserve representative of Terai-bhabar Biogeographic subdivision of the Upper Gangetic Plains It was declared a Tiger Reserve in the late 1980s and ever since it remains a safe hub for the rare Bengal Tigers in India.</td>
<td>Bengal Tiger, swamp deer, one-horned rhinoceros, hog deer, cheetal and many species of birds.</td>
</tr>
<tr>
<td>3</td>
<td>National Chambal Sanctuary</td>
<td>It is a riverine sanctuary along the Chambal River</td>
<td>Indian Skimmers, rare turtle species, crocodiles, rare Gangetic dolphin</td>
</tr>
<tr>
<td>4</td>
<td>Pilibhit Tiger Reserve &amp; Wildlife Sanctuary</td>
<td>Its northern border lies along the India-Nepal border while the southern boundary is marked by the river Sharada and Khakra.</td>
<td>tiger, leopard, swamp deer, hispid hare, and Bengal floricans</td>
</tr>
</tbody>
</table>

### Flora:
Some facts related to the flora are:
- **Recorded Forest Area:** 6.88% of the Total Geographical area
- **Total Forest and Tree cover:** 9.01% of total geographical area (21720 sq km)
- The Terai and Bhabar area in the Gangetic Plain have most of the forests.
- The districts of Jaunpur, Ghazipur and Ballia have no forest land.
- The Vindhyan forests consists mostly of scrub.
- The existing flora in Uttar Pradesh can be classified into three categories-  
  - Wet tropical deciduous forests.
  - Dry tropical deciduous forests.
  - Tropical thorny forests.

The table below covers the features of the types of forest:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Type of Forest</th>
<th>Region</th>
<th>Examples</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dry Tropical Deciduous</td>
<td>Central eastern And</td>
<td>Sal, Palas, Amaltas, Bel, fig etc. Neem, Peepal,</td>
<td>• moist regions</td>
</tr>
</tbody>
</table>
### Forest Types

<table>
<thead>
<tr>
<th>Forest Type</th>
<th>Western Plains</th>
<th>Flora</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Tropical Deciduous Forest</td>
<td>Terai</td>
<td>Teak, Sal, Shisham, Hurra, Mahua, Amla, Semul, Kusum, Sandalwood</td>
</tr>
<tr>
<td>Thorny Tropical Forest</td>
<td>South-western U.P.</td>
<td>Thorny trees, mainly, Babool, Thorny, legumes and Euphorbias</td>
</tr>
</tbody>
</table>

Other than the above major forest types there are other category of flora found in the state of Uttar Pradesh like Rhododendrons, betula, silver fir, spruce, deodar, chir, oak, sal, gigantic haldu, dhak, teak, mahua, salai, siso, chironji and tendu.

**Uses:**
- Some are widely used in industries for various applications. For example, bamboo is primarily used in the paper business, babul is used to prepare tanning material, gutel and semal are used in the matchwood industry, and kanju is a raw material for the plywood industry.
- Some like Rauwolfia Sarpagandha, Viala serpens, Podophyllum, hexandrum and aephecra gerardiana are also used as medicinal herbs.

### Soil of Uttar Pradesh

The major type of soil found in the state of Uttar Pradesh is Alluvial Soil. The Ganges and its tributaries deposit a substantial layer of alluvium as they descend the Himalayas.

**Soils of Gangetic Plains:**
- The soils in this area are fine silty, fine loamy, and coarse loamy (calcareous & non-calcareous).
- These have a light alkalinity, deep soil layers, and high levels of organic matter and plant nutrients.
- In the vast Gangetic plains, where the Ganga, Yamuna, and their tributaries deposited alluvium beds, soils eventually form.
- These are properly drained and have a good water holding capacity.
- The main crops grown in the Gangetic plains’ alluvial soil are wheat, rice, sugarcane, gram, maize, sorghum, barley, and peas.

**Soils of Vindhyachal Highlands and Plateaus:**
- Vindhyan rocks, which comprise gneiss, granites, sandstone, quartzite, limestone, and dolomite, are the main source of soil development in this area.
- Fine loamy soil with stoniness and gravelliness characterises the terrain. The soils in this area are a mixture of red and black.
- This region exhibits hilly terrain and arid conditions.
The soil has a mildly alkaline character, have been overly drained and have a low water availability (AWC).
The major crops planted in the region are – Wheat, sorghum, bajra, gram and arhar.

Soil Type in the Himalayan Crown of the state:
- In the Himalayan region, there isn't any level land to be found, and the terrain is rather uneven.
- The main rocks that contribute to the formation of soil include granite, schist, gneiss, shale, sandstone, phyllite, and quartzite.
- The soil types found in the greater Himalayas, lower Himalayas, and Shiwaliks range from sandy to loamy, are somewhat acidic, and are classified as Low Available Water Capacity (AWC) types.
- Commonly grown crops in these regions include wheat, maize, rice, and pulses.