

NATURAL VEGETATION

- Natural vegetation refers to the plants which are grown naturally in a place and are not disturbed in their germination or plantation. It depends upon the variations in the climate and the soil types over the different regions.
- These plants can be of large wooden structured trees, small wooden shrubs and very small or soft herbs. Forests are that type of natural vegetation which is dominated by trees.

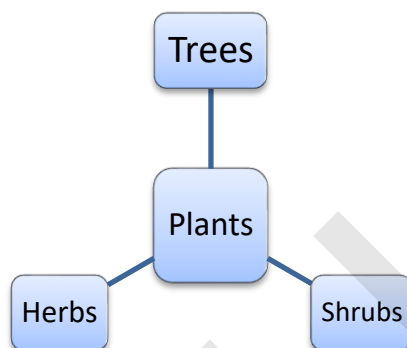


Figure 1: Types of plants

- Plant growth depends basically on 3 factors which are Sunlight, Climate and Water availability. Other factors are soil type, elevation and slope etc.
 - **Photosynthesis** by plants is done in the presence of sunlight which is responsible for their growth.
 - Climate decides the **structure and size** of the plants i.e. tall broad leaved trees can be found in hot and humid climates, small sized plants with small leaves or thorns with deeper roots are present in hot and dry climatic conditions and coniferous plants can be found in cold climatic areas.

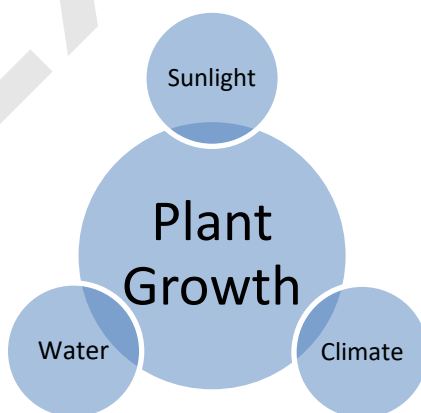


Figure 2: Factors important for plant growth

Types of Forests

Indian forests can be divided into following types:

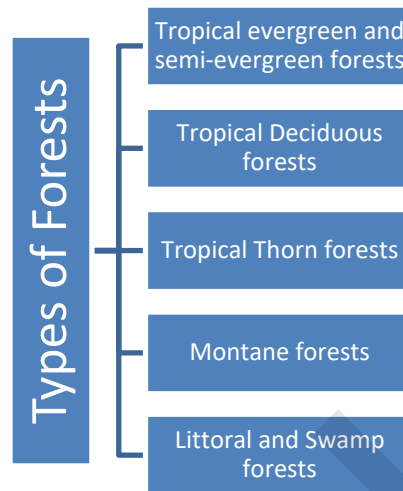


Figure 3: Types of forests in India

- **Tropical evergreen and semi-evergreen forests**
 - **Tropical evergreen forests** are found in the areas of very high rainfall i.e. **above 250 cm.** with warm and humid climate. Example- Western slope of Western Ghats, North East India hills and Andaman and Nicobar Islands.
 - These are very dense forests containing tall hardwood trees with broad leaves. They get ample amount of sunlight and water.
 - Tropical evergreen forests are **rich in biodiversity.**
 - Species which are found are **rosewood, mahogany, ebony** etc.
 - **Semi evergreen forests** are found in the areas of rainfall **200-250 cm.** Tree species found here are **white cedar, hillock and kail.**



Figure 4: Types of plants in tropical evergreen forests

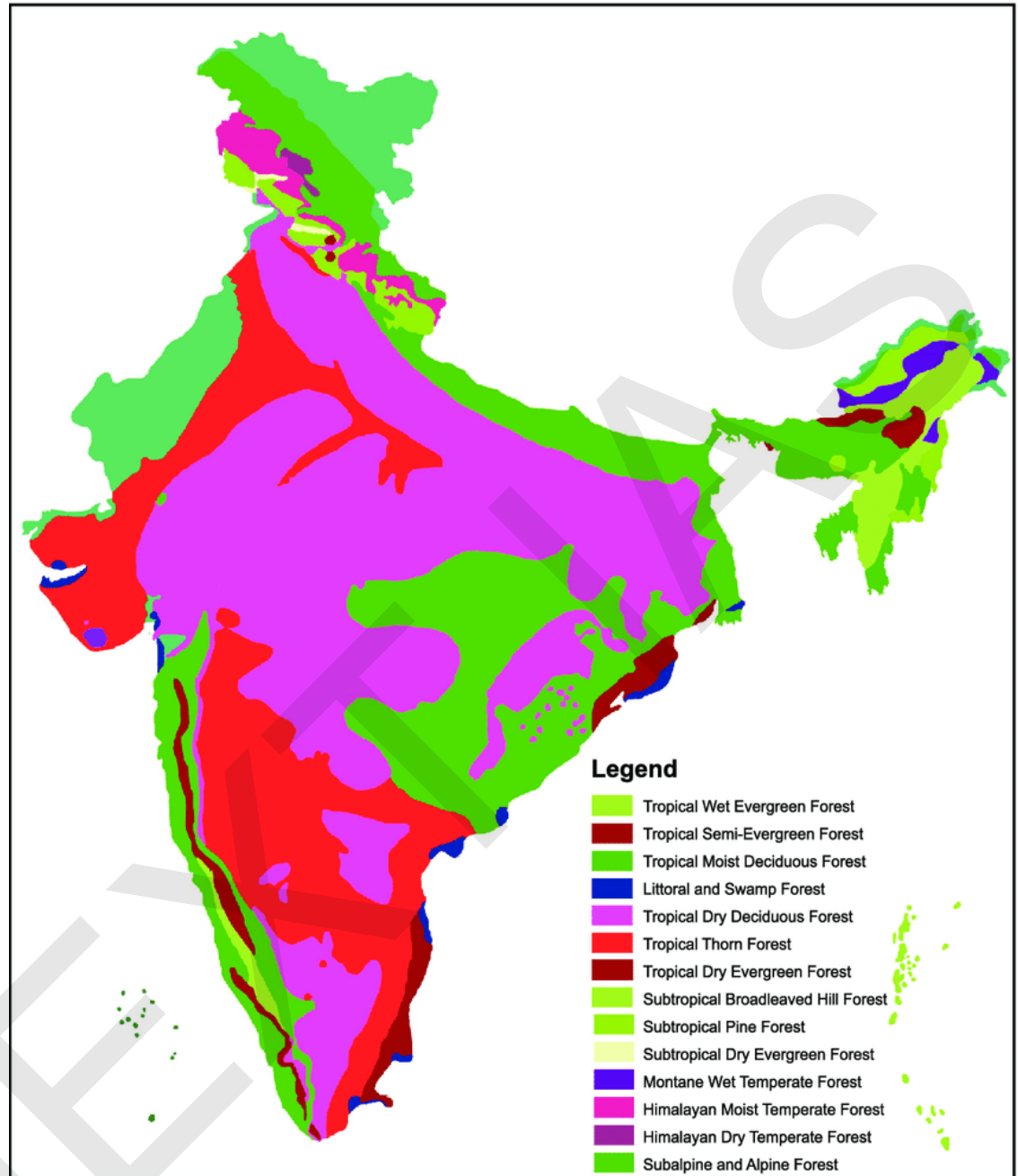


Figure 5: Forest cover of India

- **Tropical Deciduous Forests**
 - These forests are found in the areas of rainfall in the range of **70-200 cm** and constitute largest area type of forests found in India. These are also called **Monsoon forests**.
 - The trees in these forests shed leaves in pre-summer time to avoid water loss.
 - States which cover these forests are **Madhya Pradesh, Uttar Pradesh, Bihar, Chattisgarh, Jharkhand, West Bengal** etc.



Figure 6: Tropical deciduous forest

- Tropical Deciduous forests are further divided into-
 - **Moist Deciduous forests**- Areas which have rainfall in the range of **100-200 cm.** are covered with moist deciduous forests. Example- Himalayan foothills, Odisha and Eastern slope of Western Ghats. Trees present here are **Teak, sal, shisham, mahua, amla, semul, kusum, sandalwood** etc.
 - **Dry Deciduous forests**- Areas which have rainfall in the range of **70-100 cm.** are covered with Dry Deciduous forests. Example- Uttar Pradesh, Bihar, relatively more rainfall region of peninsular plateau. In the dry season the trees found here shed their leaves. Some of the trees found here are **Tendu, palas, amaltas, bel, khair, axlewood.**
- **Tropical Thorn forests**
 - Areas where rainfall occur less than 50 cm. constitute Tropical Thorn forests with variety of grasses and shrubs. Plant species which are found here are **babool, ber, neem, keekar, cactus, date palm, khejri, palas** etc. The leaves of the plants turn into thorns in the process of water conservation and they are **thick and waxy** in their appearance. Roots of the plants go deep in the ground.



Figure 7: Tropical thorn forest

- **Montane Forests**
 - Montane forests change in their characteristics according to the altitude and temperature.

- In India, Montane forests are of two types-
 - Northern mountain forests- Himalayas, North East India forests.
 - Southern mountain forests- Western Ghats, Vindhyas, Nilgiris.

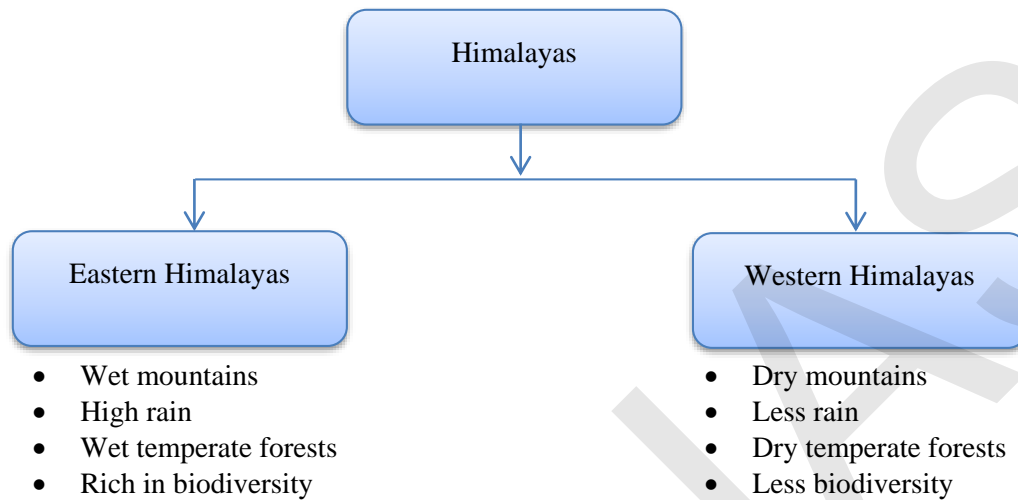


Figure 8: Classification of Himalayan Environment

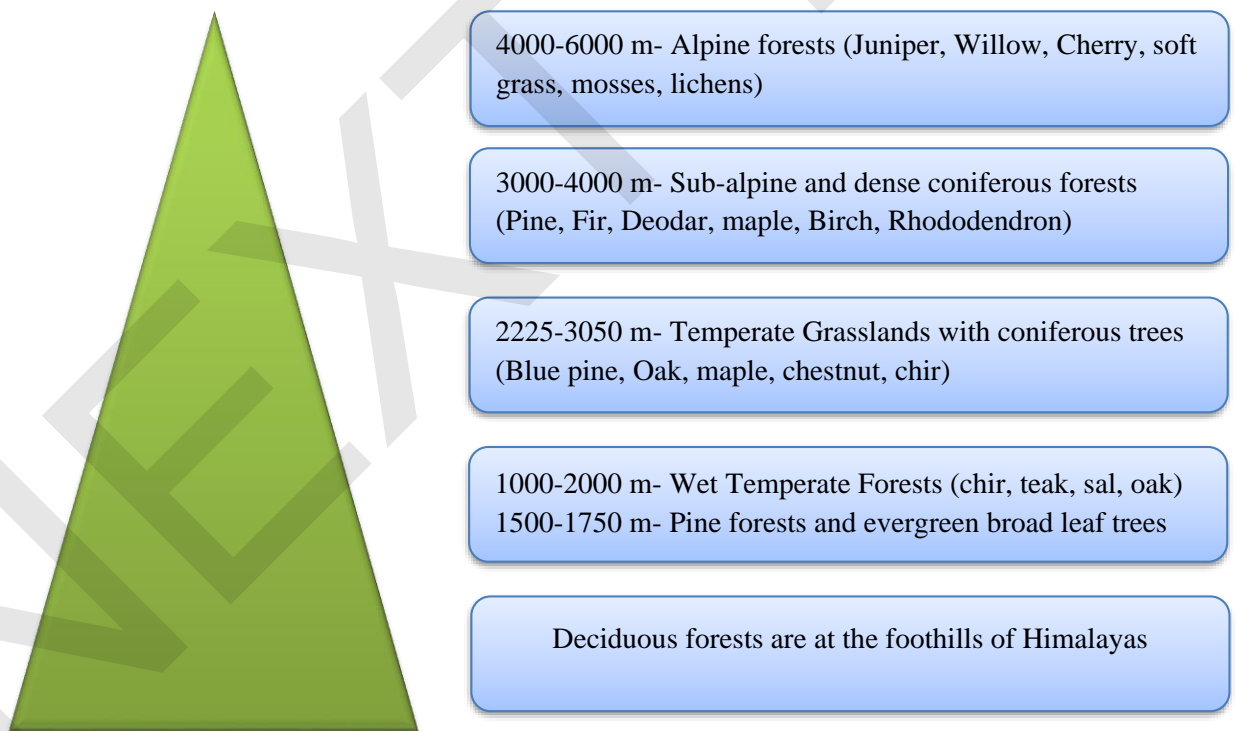


Figure 9: Natural Vegetation in Himalayas and North East India

- Southern Mountain Forests have temperate vegetation in higher regions and sub-tropical in the lower regions. The temperate forests are found here are called **Sholas** in the Nilgiris, Anaimalai and Palani hills.

- **Littoral and Swamp forests**
 - Coastal areas of India are covered with these type of forests. These are found in tropical and sub-tropical regions worldwide.

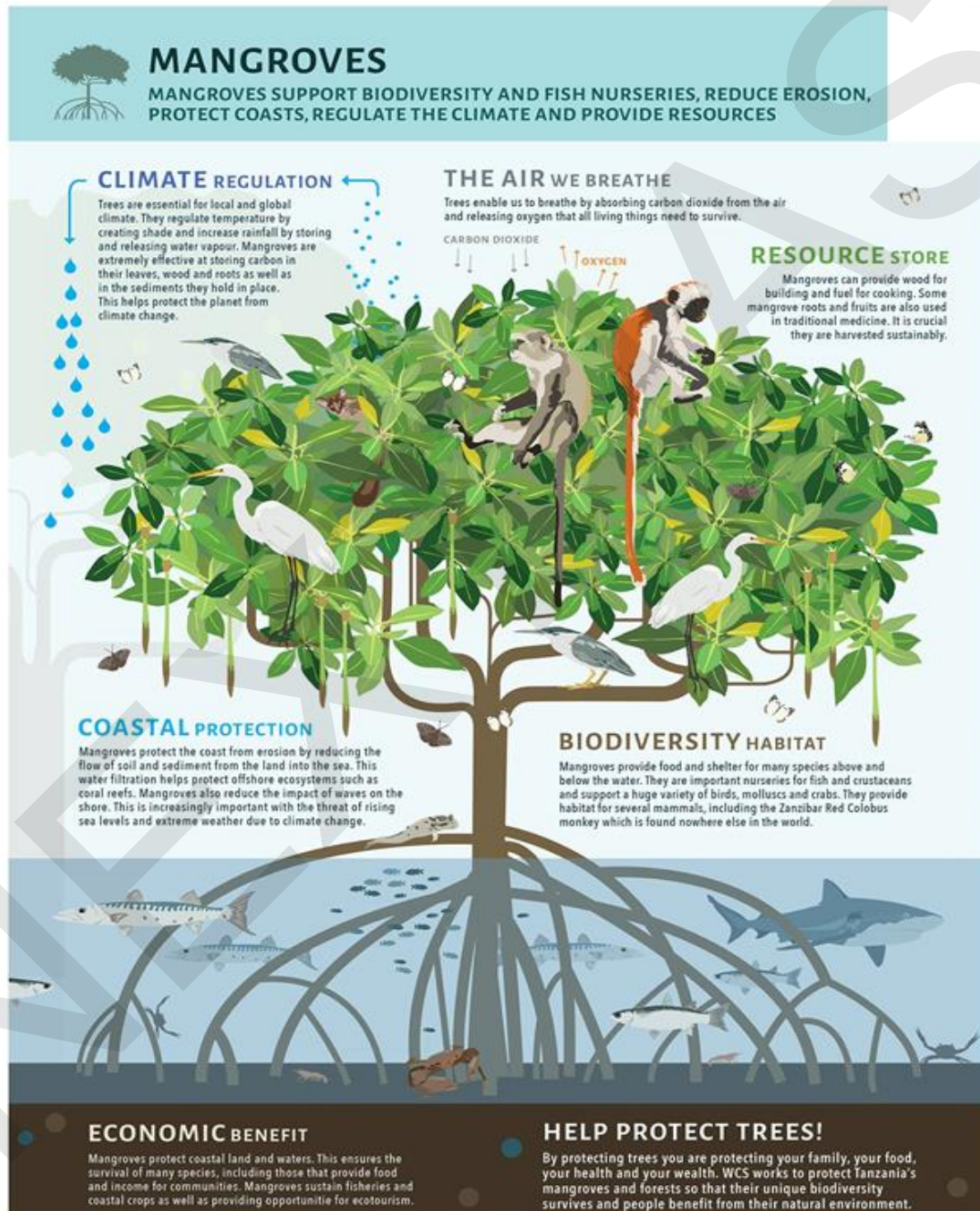


Figure 10: Mangroves and their advantages

- These are salt pleasant plants and have dense root network. These are very **rich in biodiversity** and work as a shield to the natural calamities like **Cyclones and high tides**. Exmaple- Mangrove forests in Sundarban area in West Bengal and Chilika lake area in Odisha.

Forest Cover in India

- **Forest Survey of India (FSI)** which works under the **Ministry of Environment, Forest and Climate Change (MoEFCC)** releases its **India State of Forest Report (ISFR)** biennially. Its 16th biennial assessment was published in the year 2019.
- **National Forest Policy of India, 1988** has set a goal of achieving **33%** of the country's geographical **area** under forest and tree cover.
- The **total forest and tree cover** in India is **24.56%** of its total geographical area of the country. Seperately, **total forest cover is 21.67%** and **total tree cover is 2.89%** of the geographical area of the country.
- Top 5 states in largest forest cover in India,
 - **Madhya Pradesh > Arunachal Pradesh > Chattisgarh > Odisha > Maharashtra**
- Top 5 states in forest cover of their total geographic area,
 - **Mizoram > Arunachal Pradesh > Meghalaya > Manipur > Nagaland**
- Top 5 states and UTs which have recorded their increase in forest cover (ISFR 19)
 - **Karnataka > Andhra Pradesh > Kerala > Jammu and Kashmir > Himachal Pradesh**
- Mangrove cover in the country has increased by **1.10%** as compared to the previous data and presently it is **0.15%** of the total geographic area of the country.

Forest Fires/ wildfires

- Forest fires are a serious concern in the world. They pose threat not only to the forest but also to the entire regime of flora and fauna disturbing the ecology and environment of a region.
- Forest fires can be caused by natural or anthropogenic activities. Some natural activities are- lightning, meteor, hot weather conditions, volcanic eruptions etc and man made activities are- campfire, smoking, unsustainable agricultural practices, power lines, explosions etc.
- Most of the forest fires are seen in the recent past in the state of **Uttarakhand, Madhya Pradesh and Mizoram.**
- Extent of the forest fires can be clearly recorded and evaluated by the satellites.

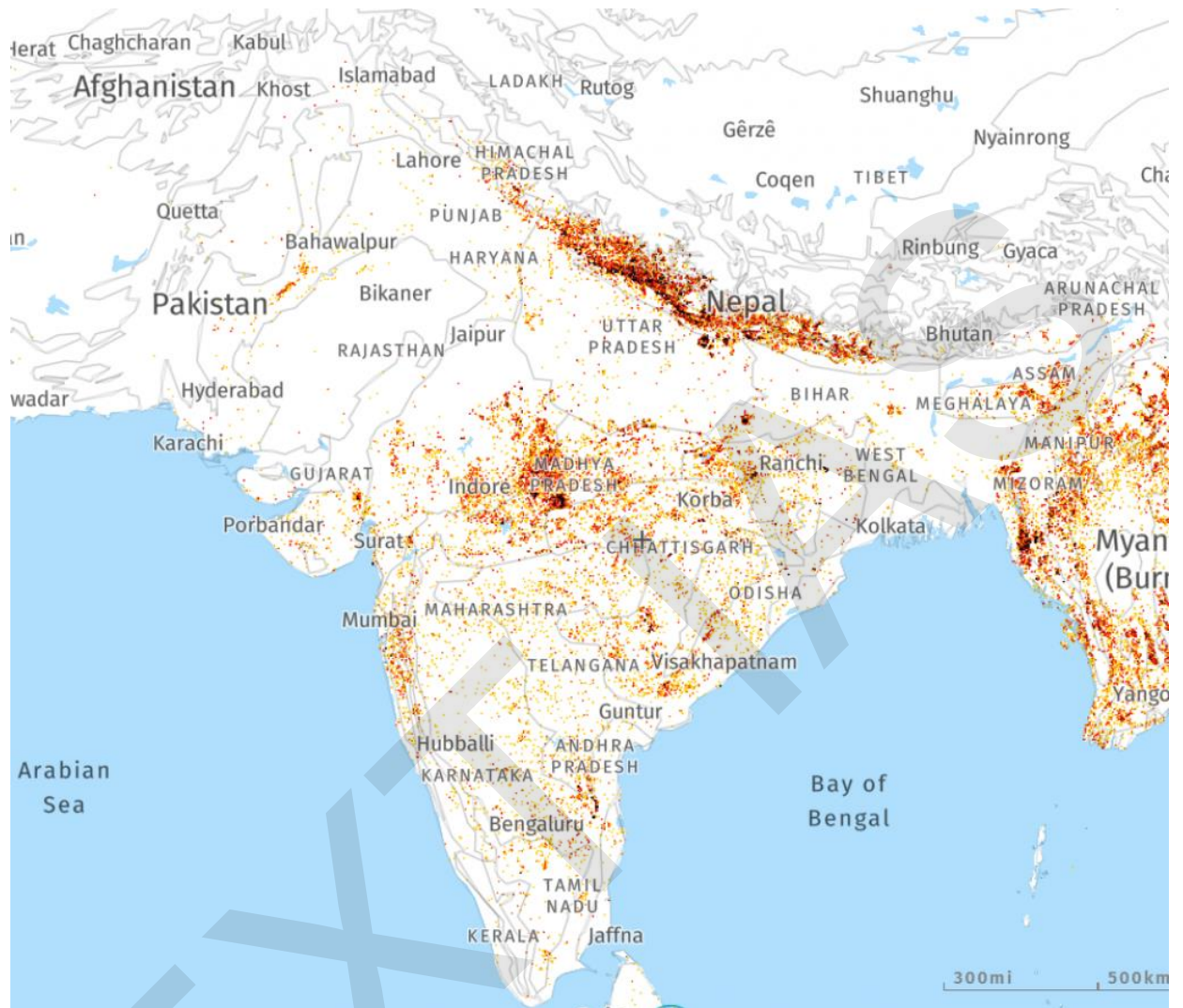


Figure 11: Forest Fires in India