

ASIA PHYSICAL GEOGRAPHY

Introduction

The continent of Asia is the largest of all continents in the world, in terms of both size and population. It covers almost one third of the land on the Earth.

Latitudinally, Asia stretches across all the heat zones of the Earth. From 10°S of the Equator to 80°N, thus the northernmost part of the continent lies within the frozen Arctic region. Longitudinally, it stretches from 25°E along the Mediterranean shore of Asia Minor to 10° beyond 180° meridian in the Bering Strait.

To the north of Asia lies the Arctic Ocean, to the east the Pacific Ocean, to the west the Mediterranean Sea and to the south lies the Indian Ocean. Ural Mountains and Ural river, Caspian Sea, Caucasus Mountain, Black Sea and Red Sea separate it from Europe. Red Sea and the Suez Canal, separate it from Africa, while the Bering Strait separates it from North America.



Physical Features

Compared to its size, Asia has few physiographic divisions. Thus, according to relief, it can be divided into five divisions.

1. The Northern Lowlands

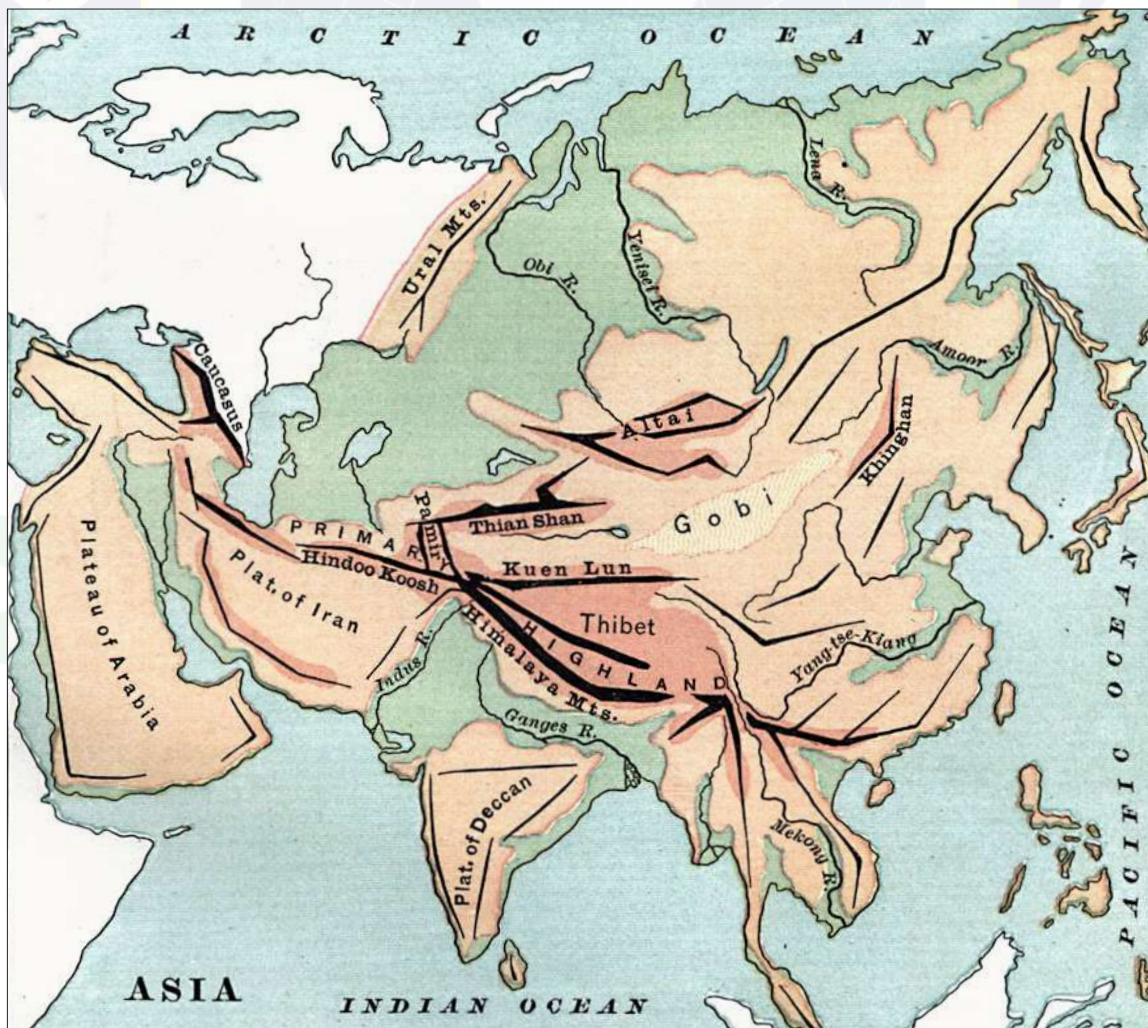
To the north of Asia, sloping towards the Arctic Ocean lies the vast Siberian Plain. It is roughly triangular in shape, the Ural Mountains and the Arctic Ocean forming the two sides and the Central Mountains the base. It stretches from the Urals in the west to the Yablanovyy, Stanovoy and Verkhoyansk Ranges in the east. Three long, slow flowing rivers start from the Central Highlands and flow northwards. They are the Ob, Yenisey and Lena. To the south of the Urals, a small part of this plain is different from the rest as it is a basin of inland drainage known as the Turan Plain. It is drained by the two rivers, the Syr Darya and the Amu Darya which flow into the Aral Sea.

2. The Central Mountain Mass

The heart of Asia is made up of great young fold mountain ranges and high plateaus. These form the largest mountainous areas in the world and they seem to radiate like spokes from the hub of a wheel. There are two hubs or knots -the Pamir Knot, north of India and Armenian Knot in the western part of Asia Minor.

2.1. Mountains from Pamir Knot

Southeastwards from the Pamir Knot stretch the Himalayas, Karakoram and Kunlun Mountains. To the north of these in a west to east direction lie the Tian Shan and Nan Shan mountains. Tibet, the 'roof of the world', is the intermontane plateau between the Himalayas and the Kunlun Mountain. The Tarim Basin a depression lies between the Kunlun and the Tian Shan. Qaidam Pendi lies east of Kunlun. Eastwards of this lies the Gobi Desert bordered on the north by the Plateau of Mongolia and the Altai Range. Running eastwards, the most southerly of the fold mountains are the Himalayas. The Himalayas extend southwards into the northeastern part of India and run through Myanmar (Burma) as the Arakan and Pegu Yomas, into the Malay Peninsula and continue into the Indonesian Archipelago as submarine ranges.

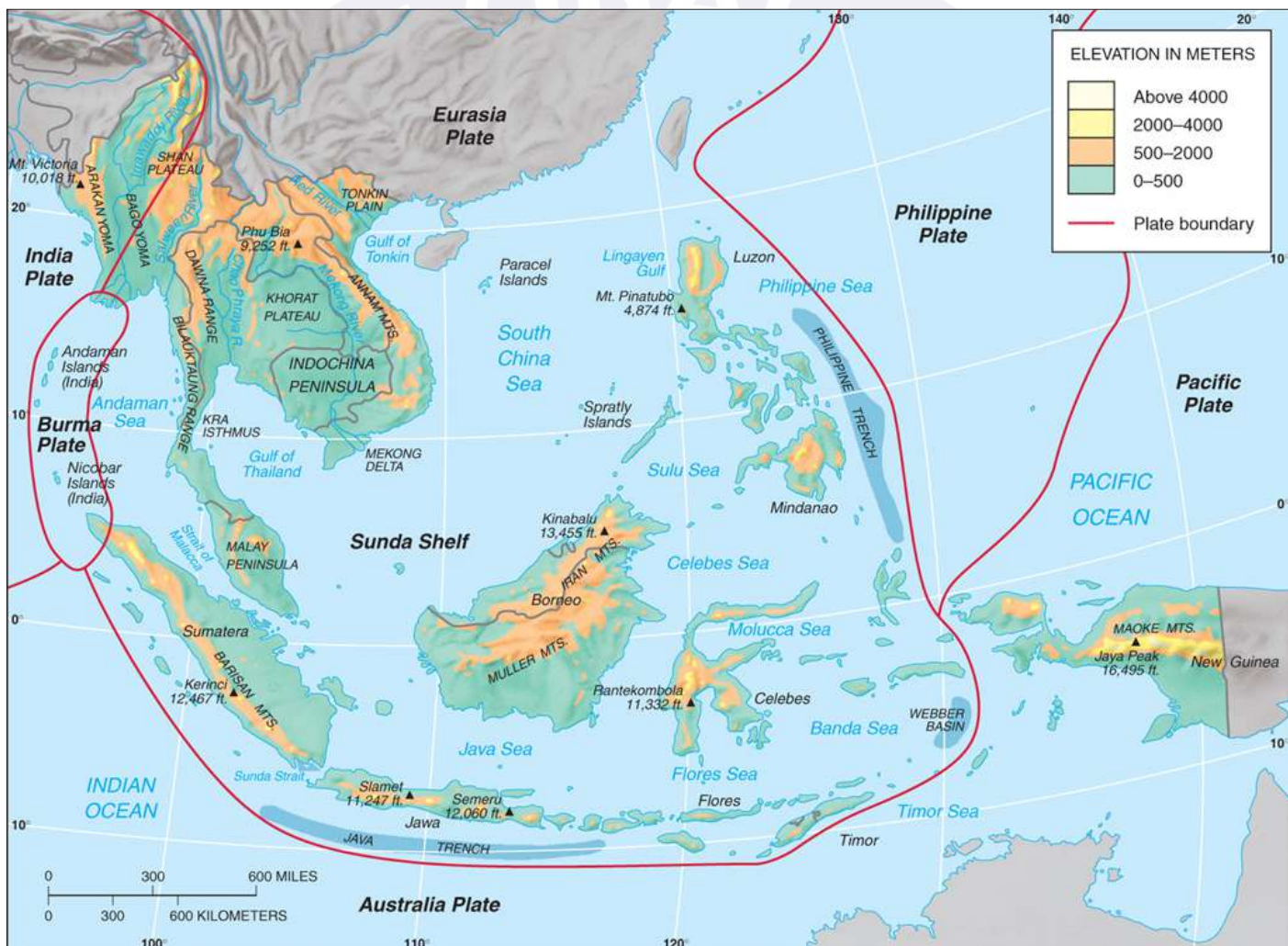


2.2. Mountains from Armenian Knot

From the Armenian Knot towards the west extend the Pontic and Taurus Mountains which are the northern and southern ranges of Turkey with the Plateau of Anatolia lying between. This forms the Peninsula of Asia Minor. From the Armenian Knot, eastwards runs the Elburz and Zagros, engulfing the intermontane Plateau of Iran.

3. The Plateaus of the South

These are made up of hard old metamorphic rocks. There are three of them. All three jut into the sea forming peninsulas. They are the Arabian Plateau, the Deccan Plateau and the Plateaus of Shan and Yunnan together known as the Plateau of Indochina. While the Arabian Plateau is a hot desert the other two have been eroded by monsoon rains and cut into deep river valleys. Hence they are called “dissected plateaus”



4. The River Valleys

These are the most productive region of Asia. These have broad flood plains and deltas, built up entirely of alluvium. The soil is very fertile and transportation is easy. These are the most densely populated regions of the world. The rivers Tigris and Euphrates flow into the Persian Gulf; Indus, Ganga and Brahmaputra are of the Indian peninsula; Irrawaddy and Salween of Myanmar; Menam and Mekong of South East Asia. The Chinese rivers are Xi Jiang, Chang Jiang and Huang He. The River Amur is part of the boundary between China and C.I.S. River Chang Jiang is the longest river of Asia.

5. The Eastern and South-eastern Island Groups

These and the nearby peninsulas are the peaks and ranges of submerged fold mountains. The innumerable islands are separated from each other and the mainland by straits and smaller seas. The Japanese Islands, Philippines and the Islands of Indonesia are the large island groups. Kamchatka, Korea and Malaysia are peninsulas. The busy ports of Singapore and Hong Kong are both islands. Being part of the Pacific Ring of fire, earthquakes and volcanoes occur frequently in this region.



Drainage system

Though the rivers of Asia have their sources in the Central Mountain Mass, they are grouped according to the seas they flow into. This grouping is known as drainage system. In Asia we have the following drainage systems.

1. The Indian Ocean- Rivers Tigris and Euphrates flow into the Persian Gulf; the Indus, Ganga, Brahmaputra, Irrawaddy and Salween into branches of the Indian Ocean.
2. The Pacific Ocean drainage consists of the Menam, Mekong, Xi Jiang, Chang Jiang, Huang He and Amur.
3. The Arctic Ocean drainage consists of the three rivers of the north, Ob, Yenisey and Lena.
4. Inland drainage-River Jordan flows into the Dead Sea; Amu Darya and Syr Darya into the Aral sea.





Climate of Asia

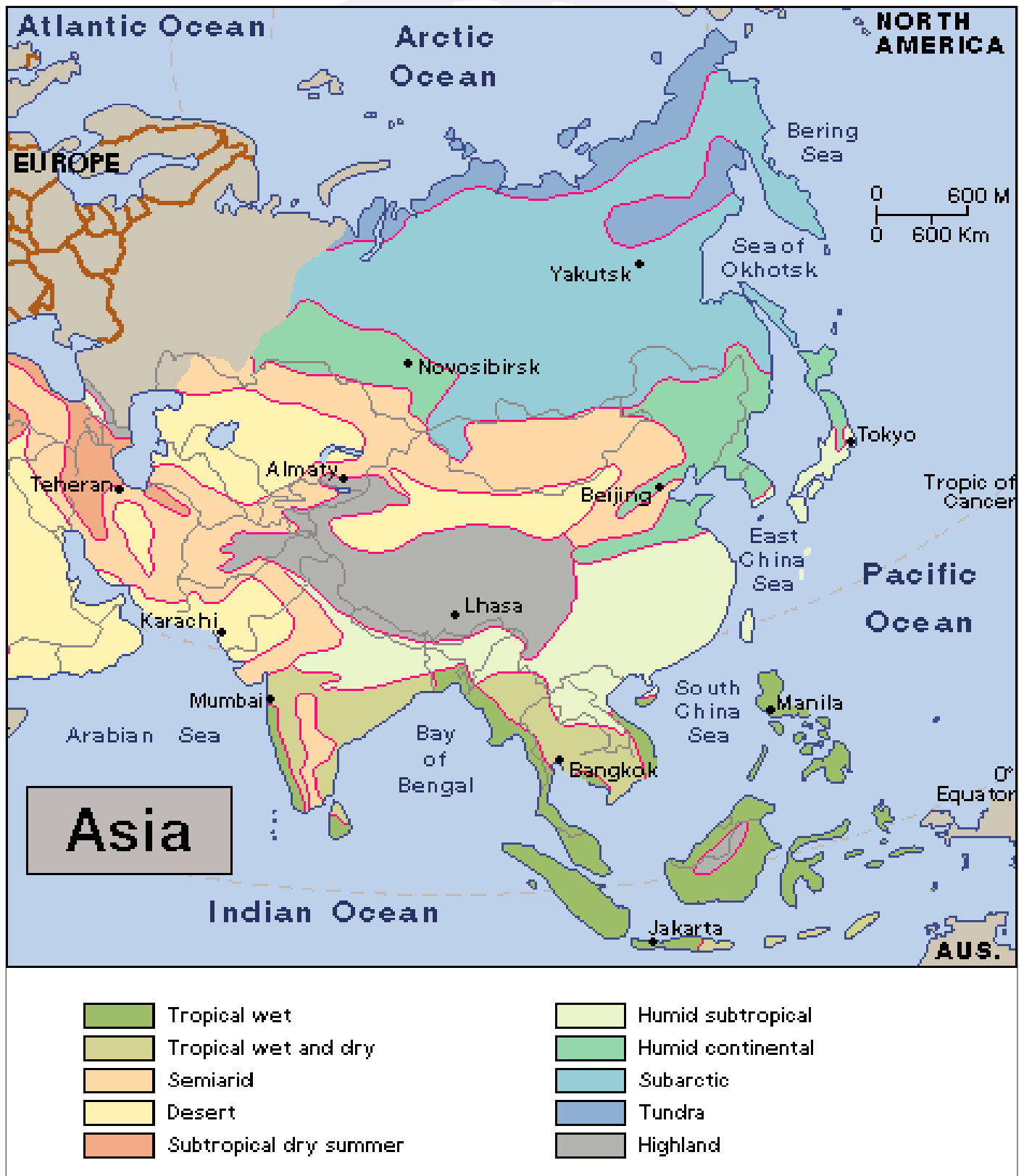
A vast continent like Asia experiences a variety of climatic types. They are:

1. **Equatorial or Rainforest Climate:** Indonesia, Philippines, Malaysia, Sri Lanka and Singapore experience this type of climate. The temperature remains high throughout the year with an average of 21°C. Seasons are not experienced. During the day rapid evaporation occurs resulting in formation of cumulonimbus clouds. During the afternoon convectional rain occurs.
2. **Tropical Monsoon or Humid Sub Tropical Climate:** Northern Malaysia, South China, Thailand, Cambodia, Vietnam, Laos, Myanmar, India, Bangladesh and Pakistan experience monsoon climate. Generally two seasons are experienced-wet summers and dry winters. Winds blow in from the sea (High Pressure) towards land (Low Pressure) during summer bringing rain for four months from June to September. In winter the same winds blow from land (High Pressure) to sea (Low Pressure).
3. **China Type:** Central and Northern China and Southern Japan experience this type of climate. Rainfall occurs in summer when moisture laden winds blow in from 'the seas. Snowfall occurs in Winter.
4. **Manchurian Type:** Manchuria, East Korea, Eastern Russia, North east China and North Central Japan comes under this climatic type. Winters are long and severe. Cold freezing winds blow from Central Asia towards this region. In winter for example at Vladivostok the temperature in: January is -14°C. Rainfall occurs in summer.
5. **Hot Desert Type:** It covers South West Asia right up to the Thar Desert. Temperatures are extreme. Summers are hot with cold winters. Diurnal range of temperature is high due to absence of clouds. Maximum absorption of insolation occurs during the day and terrestrial radiation occurs at night.



6. **Mid latitude Desert Type:** This climate type is experienced on the high plateau and temperate deserts like Tibet, Gobi and Iran. Summer heat is great and in winter below freezing point. In winters occasional cyclones can bring precipitation. In summers rain may come from convectional showers.
7. **Mediterranean Type:** Is found over Turkey, Syria and Israel. The summers are warm and dry, the winters are mild with rain coming from temperate cyclones brought in from the Mediterranean.

8. **Mid Latitude Continental or Steppe Type:** Occurs over the steppe grasslands area. Temperatures are very extreme due to great distance from the sea. Winters are long and cold and summers are short and very warm.' Scanty rainfall occurs in summer and snowfall in winter.
9. **Cold Temperate Continental Type:** Covers a broad belt across Siberia and the Northern Lowlands. Winters are long and cold and summers brief and cool. Verkhoyansk the 'Cold Pole' is located in this climatic belt. Most of the precipitation occurs in summer. Winters are snowy.
10. **Arctic Desert (Tundra) Type:** Occurs beyond the Arctic Circle. Winters are nearly 9 months long. Summers are short with temperature of 10°C experienced in the southern part. Annual precipitation is around 20 centimetres a year. Even in summer the sub-soil never thaws and remains permanently frozen. This is technically termed as 'Permafrost'



Natural Vegetation and Wildlife

There are eight types of natural vegetation found in Asia

1. **Equatorial forests:** This region lies near the Equator and is found in Malaysia, Indonesia, Southern Sri Lanka and the Philippines. The climate is always hot and wet so plants and trees are tall with broad leaves. The plants are often entwined with creepers growing up towards the sunlight. Trees like the mahogany, ebony, rosewood and palms grow here.
2. **Tropical monsoon forests:** Lands that lie near the Tropic of Cancer- India, Pakistan, Bangladesh, Northern Sri Lanka and Myanmar-have tropical forests. It is mainly hot and wet. The trees found are largely deciduous and shed their leaves in the hot dry summer months to prevent excessive transpiration.
3. **Deserts:** China, Arabia and India (Thar) have vast desert areas. In the hot deserts (Arabia and India) summers are hot while winters are cool. Since there is hardly any rainfall only cactii, shrubs and thorny bushes grow in these areas, though date palms also grow in an oasis. Cold deserts are surrounded by high mountains and experience very cold winters. Short grass and low thorny bushes grow' along the edge of these desert.
4. **Temperate grasslands:** It is known as dry grassland. This zone is a narrow belt from the Ukraine in the west to Lake Balkhash and Siberia in the east. The summers are warm and the winters cold. Rainfall ranges from 20 to 50 centimetres a year, which is not enough for trees to grow but short grass and low bushes grow in this area. This vegetation is also called steppes.
5. **Mediterranean woodlands:** A very small area of Asia comes under this type of vegetation.' They are the shores of Turkey and parts of Syria, Lebanon and Israel. The summers are hot and dry and the winters mild and moist. Cedars, Wheat grape and citrus fruits grow in these lands.
6. **Sub-tropical and temperate mixed forests:** Temperate mixed forests are found above and beyond the tropical forests, mainly in North and Central China, South Japan and South Korea. The climate is cool and wet. Broad leaved deciduous trees like oak, bamboo and mulberry are found in these forest. in South China subtropical forest occur.
7. **Siberian forest or taiga:** The taiga lies to the north of the temperate grasslands. They form a wide belt of coniferous forest. The long and severe winters are punctuated by brief summers which last for only about three months.
8. **Tundra or polar:** This belt is a narrow strip along the northern coast of the continent. The vegetation here is mostly grass, shrub, moss, lichen and a few stunted (dwarf) trees".

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