

## Biosphere Reserves in India

Biosphere reserves are areas of terrestrial and coastal or marine ecosystems or its amalgamation. The biosphere reserve network was launched in 1971 by UNESCO, two years after the initiation of MAB- Man and the biosphere program. The Government of India established 18 biospheres in the country (categories generally relating to IUCN Category V Protected areas).

The first biosphere reserve of the world was established in 1979. According to UNESCO, as of July 2021, there are 714 Biosphere reserves across 129 countries in the world which also include 21 transboundary sites.

Distribution of the Biosphere Reserves across the World are as follows:

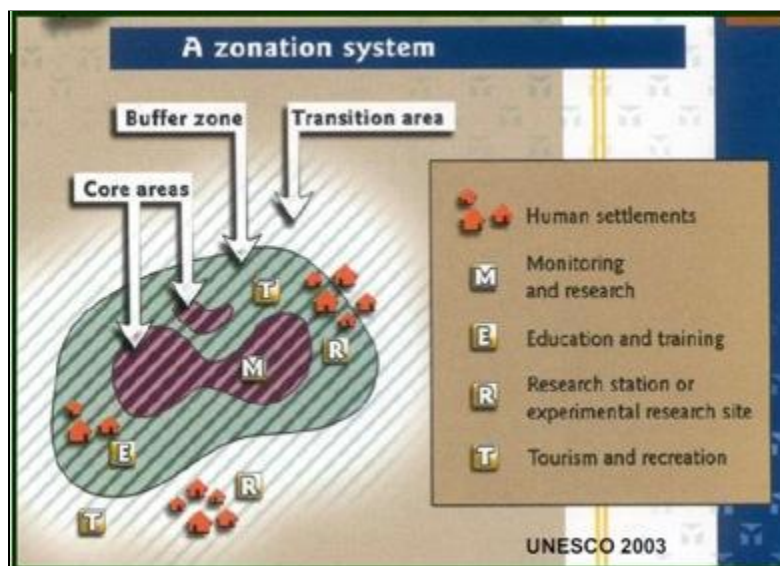
- 85 sites in 31 countries in Africa
- 33 sites in 12 countries in the Arab States
- 157 sites in 24 countries in Asia and the Pacific
- 302 sites in 38 countries in Europe and North America
- 130 sites in 21 countries in Latin America and the Caribbean.

## Functions of a Biosphere Reserve

Each biosphere reserve is supposed to fulfill three harmonizing functions:

1. **Conservation function:** to conserve genetic resources, species, ecosystems, and landscapes
2. **Development function:** to promote sustainable human and economic development.
3. **Logistic support function:** to provide support for research and analyzing the issues of conservation and sustainable development.

## Three zones of the Biosphere



Biosphere reserves have three unified zones that aim to fulfill three harmonizing and mutually reinforcing

functions:

1. **The core area:** It involves an entirely secured and protected ecosystem that contributes to the preservation of landscapes, ecosystems, species and genetic variation.
2. **The buffer zone:** It encompasses or adjoins the core areas. It is utilized for activities compatible with sound ecological practices that can fortify scientific research, monitoring, training, and education.
3. **The transition area:** It is the part of the reserve where the greatest activity is permitted to promote economic and human development that is sustainable.

## List of Biosphere Reserves in India

Biosphere reserves are announced by the state or central governments by notification. The Governments can nominate them under the UNESCO's Man and Biosphere (MAB) Programme after its establishment as a biosphere reserve. There are 18 biosphere reserves in India.

No.	Name of Biosphere Reserve	Year of Notification	Location (States)
1	Nilgiri	1986	Part of Wayanad, Nagarhole, Bandipur and Madumalai, Nilambur, Silent Valley, and Siruvani hills (Tamil Nadu, Kerala and Karnataka).
2	Nanda Devi	1988	Part of Chamoli, Pithoragarh, and Bageshwar districts (Uttarakhand).
3	Nokrek	1988	Part of Garo Hills (Meghalaya).
4	Great Nicobar	1989	Southernmost islands of Andaman And Nicobar (A&N Islands).
5	Gulf of Mannar	1989	The Indian part of the Gulf of Mannar between India and Sri Lanka (Tamil Nadu).
6	Manas	1989	Part of Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup, and Darang districts (Assam).
7	Sunderbans	1989	Part of the delta of Ganges and Brahmaputra river system (West Bengal).
8	Simlipal	1994	Part of the Mayurbhanj district (Orissa).
9	Dibru-Saikhowa	1997	Part of Dibrugarh and Tinsukia Districts (Assam).
10	Dehang-Dibang	1998	Part of Siang and Dibang Valley in Arunachal Pradesh.
11	Pachmarhi	1999	Parts of Betul, Hoshangabad, and Chindwara districts of Madhya Pradesh.

12	Khangchendzonga	2000	Parts of Khangchendzonga hills and Sikkim.
13	Agasthyamalai	2001	Neyyar, Peppara, and Shendurney Wildlife Sanctuaries and their adjoining areas in Kerala.
14	Achanakamar – Amarkantak	2005	Covers parts of Anupur and Dindori districts of M.P. and parts of Bilaspur districts of Chhattishgarh State.
15	Kachchh	2008	Part of Kachchh, Rajkot, Surendra Nagar, and Patan Civil Districts of Gujarat State.
16	Cold Desert	2009	Pin Valley National Park and surroundings; Chandratal and Sarchu & Kibber Wildlife Sanctuary in Himachal Pradesh.
17	Seshachalam Hills	2010	Seshachalam Hill Ranges covering parts of Chittoor and Kadapa districts of Andhra Pradesh.
18	Panna	2011	Part of Panna and Chhattarpur districts in Madhya Pradesh.

## UNESCO Protected Biosphere Reserves – International Status

Recently, Panna Biosphere Reserve was also given the International status of UNESCO Protected Biosphere Reserve. The status was given in the year 2020, and prior to that, the Khangchendzonga Biosphere Reserve from India was also included in this list in 2018.

With the addition of the two Biosphere Reserves, 12 of the 18 biosphere reserves in the country have become part of the World Network of Biosphere Reserves which is based on the UNESCO Man and the Biosphere (MAB) Programme list.

The UNESCO Protected Biosphere Reserves list in India are given below:

YEAR	NAME	STATES
2000	Nilgiri Biosphere Reserve	Tamil Nadu
2001	Gulf of Mannar Biosphere Reserve	Tamil Nadu
2001	Sundarbans Biosphere Reserve	West Bengal
2004	Nanda Devi Biosphere Reserve	Uttarakhand
2009	Pachmarhi Biosphere Reserve	Madhya Pradesh
2009	Nokrek Biosphere Reserve	Meghalaya
2009	Simlipal Biosphere Reserve	Odisha

2012	Achanakmar-Amarkantak Biosphere Reserve	Chhattisgarh
2013	Great Nicobar Biosphere Reserve	Great Nicobar
2016	Agasthyamala Biosphere Reserve	Kerala and Tamil Nadu
2018	Kanchenjunga Biosphere Reserve	Part of North and West Sikkim districts
2020	Panna Biosphere Reserve	Madhya Pradesh

The World Network of Biosphere Reserves (WNBR) covers globally chosen protected areas. It consists of a vibrant and interactive network of sites of distinction. It promotes the harmonious assimilation of people and nature for sustainable development in different ways. If one country declares one area as a biosphere reserve, it can nominate the same to under the UNESCO's Man and Biosphere (MAB) Programme. If UNESCO accepts the proposal of the government, the biosphere reserve will enter into the World Network of Biosphere Reserves (WNBR).

### **Biosphere Conservation**

UNESCO is promoting the peaceful integration of man and nature for sustainable development through participatory dialogue, awareness on poverty reduction and human well-being improvement, respect for cultural values, and society's ability to cope with change.