

# GSI lists geo-tourism sites in North east

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**In news-** The Geological Survey of India (GSI) has identified certain geological sites across the Northeast for promotion of geo-tourism after withdrawal of Covid-19 restrictions.

## **Geological sites of NE-**

- Twelve locations in the Northeast are included in the 32 approved geo-tourism or geo-heritage sites in the country.
- These are scenic places that can be top attractions through responsible tourism.
- Of the 12 sites in the Northeast, three are in Meghalaya, two each in Assam and Tripura, and one each in Arunachal Pradesh, Manipur, Mizoram, Nagaland and Sikkim.

## **Meghalaya-**

### **Mawmluh Cave:**

- Near Cherrapunjee in the East Khasi Hills district, this cave led scientists to the Meghalayan Age associated with a major climatic event – very abrupt, critical and significant drought and cooling 4,200 years ago.
- A stage of the Meghalayan Age is defined from a specific level in a stalagmite from this cave.

### **Mawblei or God's Rock:**

- Location: East Khasi Hills district
- It is a huge **balancing rock slanting** at an angle of about 45 degrees in the south-southeast direction on a hill slope at 1,303 metres above mean sea level overlooking the Wahrashi River valley.

- **The rock is composed of the reddish-purple Mahadek sandstone** belonging to the Khasi group of cretaceous age.
- Mawblei in the Khasi language means God's Rock and is a sacred place for the local populace.

### **Therriaghat:**

- Also in East Khasi Hills district, it is probably one of the **best-preserved and most complete Cretaceous-Paleogene boundary sections in India.**
- Most of the large vertebrates, planktons and many tropical invertebrates suddenly became extinct at the end of the Cretaceous period.

### **Assam-**

#### **Majuli:**

- A **river "island", among the world's largest, Majuli is a district** at the mercy of the Brahmaputra river.
- The island is also the **hub of spiritualism in Assam because of a number of 'satras' or Vaishnav monasteries** established by the 15th-16th century saint-reformer Srimanta Sankaradeva and his disciples.

#### **Umananda:**

- One of the smallest inhabited islands in the Brahmaputra, Umananda is off the administrative hub of Guwahati and sports an old Shiva temple.
- The island is **actually an inselberg, composed of the rocks of the Assam-Meghalaya gneissic complex.**

### **Tripura-**

#### **Chabimura:**

- In Gomati district, this site is **known for its panels of rock carving on a steep hill wall** on the bank of river

Gomati.

- The **huge images of Shiva, Vishnu, Karthikeya, Durga** and other gods and goddesses date back to the 15th-16th century and the biggest carved deity is about 20 ft.

### **Unakoti:**

- This site in the Unakoti district has **numerous rock-cut sculptures and temples** made between the 7th and 9th centuries.
- Unakoti means one less than a crore.
- The place is a **historic Shaiva pilgrimage**. The central Shiva head, known as '**Unakotiswara Kal Bhairava**' is about 30 feet high.

### **Arunachal Pradesh-**

#### **Sangetsar Tso:**

- Popularly known as **Madhuri Lake**, this waterbody in **Tawang district** is close to the border with Tibet and was **formed due to the damming of a river during a major earthquake in 1950**.
- The lake is surrounded by a **lush valley and snow-capped mountains**.

### **Manipur-**

#### **Loktak Lake:**

- This lake in the Bishnupur district is the largest freshwater lake in the Northeast.
- The attractions of this lake are the 'phumdis' or floating biomass and the 'phumsangs' or huts of fishermen on them.
- The Keibul Lamjao National Park, the only floating wildlife habitat on earth, is on the southwestern part of the lake and is the last natural habitat of the sangai or brow-antlered dancing deer.

## Mizoram-

### Reiek Tlang:

- This hill is a **cuesta formed due to erosion of the tertiary sand shale alterations.**
- **Cuesta means a ridge with a gentle slope** or dip on one side and a steep slope or scarp on the other.

## Nagaland-

### Naga Hill Ophiolite:

- Geologically referred to as **NH0**, it is in the **Pungro region of Kiphire district.**
- It refers to the **ophiolitic rocks of mantle and oceanic crust percentage** at the continental plate margin with vast potential for intensive research and economic growth.
- **The NH0 consists of a variety of Mesozoic and the subsequently Cenozoic rocks** – magmatic, metamorphic and sedimentary – that originated at the India-Myanmar convergent plate boundary.

## Sikkim-

### Stromatolite Park:

- This site **comprising stromatolitic (algal) development boulder outcrops with circular structures,** hosted in the limestone of **Buxa Formation** was discovered a little over a decade ago.
- It provides one of the **rare examples of early life on earth in the Sikkim Himalayas.**
- The **age of the Buxa Formation is tentatively assigned as Meso-Neoproterozoic** based on the available evidence of stromatolites and organic-walled microfossils.

## What is geotourism?

- Geotourism is defined as tourism that sustains or enhances the distinctive geographical character of a place, its environment, heritage, aesthetics, culture, and the well-being of its residents.
- It is tourism associated with geological attractions and destinations.
- Geotourism deals with the abiotic natural and built environments.
- Geotourism was first defined in England by Thomas Alfred Hose in 1995.

Extra

reading: <https://journalsofindia.com/geological-survey-of-india-gsi/>