



## Two New Geological Heritage Sites

### Why in News?

Recently, [Geological Survey of India \(GSI\)](#) has identified **two geological heritage sites in the Indian Himalayan Region of India.**

- The sites identified are **Siwalik Fossil Park, Himachal Pradesh** and **Stromatolite bearing Dolomite / Limestone of Buxa Formation of Buxa Formation, Sikkim.**
- With inclusion of these two sites, there are **34 Geological Heritage Sites in India.**
- Earlier, the GSI [identified certain geological sites across the Northeast](#) for promotion of geo-tourism.

### What are the Key Points?

- **Siwalik Fossil Park (Himachal Pradesh):** The Siwalik Fossil park displays a rich collection of vertebrate fossils recovered from the Siwalik rocks of the area of Plio-Pleistocene age (**2.6 million to 11,700 years ago**).
  - The deposition of Siwalik sediments took place in the narrow linear depression, called the 'fore deep', which started developing in front of the Himalayas since the inception of its uplift in the middle **Miocene (23 million years to 2.6 million years ago).**
- **Stromatolite bearing Dolomite / Limestone of Buxa Formation of Buxa Formation (Sikkim):** This Geoheritage site at Mamley exposes lithounits of Buxa Formation, Daling Group of Proterozoic age (**2.5 billion years to 541 million years ago**).
  - The dolostones (sedimentary rock) are profusely stromatolitic (Precambrian algal structures). This site provides one of the rare examples of early life in Sikkim Himalaya.
  - The Precambrian is the **earliest of the geologic ages**, which are marked by different layers of sedimentary rock.

### What are Geo-heritage Sites?

- Geo-heritage refers to the geological features which are inherently or culturally **significant offering insight to earth's evolution or history to earth science** or that can be utilized for education.
- **Geological Survey of India (GSI) is the parent body** which is making efforts towards identification and protection of geo-heritage sites/national geological monuments in the country.

Geological heritage site /National geological monument	
<b>ANDHRA PRADESH</b>	<ul style="list-style-type: none"><li>▪ Volcanogenic bedded Barytes, Mangampeta, Cuddapah Dist.</li><li>▪ Eparchaeon Unconformity, Chittoor Dist.</li><li>▪ Natural Geological Arch, Tirumala Hills, Chittoor Dist.</li><li>▪ Erra Matti Dibbalu- the dissected and stabilized coastal red sedimentary rocks, Srisailam, Nellore Dist.</li></ul>
<b>KERALA</b>	<ul style="list-style-type: none"><li>▪ Laterite near Angadipuram PWD rest house premises, Malapuram Dist.</li><li>▪ Varkala Cliff Section, Thiruvananthapuram Dist.</li></ul>
<b>TAMILNADU</b>	<ul style="list-style-type: none"><li>▪ Fossil wood near Tiruvakkarai, South Arcot Dist.</li><li>▪ National fossil wood park, Sattanur, Tiruchirappalli Dist.</li></ul>

	<ul style="list-style-type: none"> <li>▪ Charnockite, St. Thomas Mount, Madras.</li> <li>▪ Badlands of Karai Formation with Cretaceous fossils along Karai – Ku</li> </ul>
<b>MAHARASHTRA</b>	<ul style="list-style-type: none"> <li>▪ Lonar Lake, Buldana Dist.</li> </ul>
<b>GUJARAT</b>	<ul style="list-style-type: none"> <li>▪ Sedimentary Structures – Eddy Markings, Kadan Dam, Panch Mahals</li> </ul>
<b>RAJASTHAN</b>	<ul style="list-style-type: none"> <li>▪ Sendra Granite, Pali Dist.</li> <li>▪ Barr Conglomerate, Pali Dist.</li> <li>▪ Stromatolite Fossil Park, Jharmarkotra Rock Phosphate deposit, Udaipur Dist.</li> <li>▪ Gossan in Rajpura-Dariba Mineralised belt, Udaipur Dist.</li> <li>▪ Stromatolite Park near Bhojunda, Chittaurgarh Dist.</li> <li>▪ Akal Fossil Wood Park, Jaisalmer Dist.</li> <li>▪ Kishangarh Nepheline Syenite, Ajmer Dist.</li> <li>▪ Welded Tuff, Jodhpur Dist.</li> <li>▪ Jodhpur Group – Malani Igneous Suite Contact, Jodhpur Dist.</li> <li>▪ Great Boundary Fault at Satur, Bundi Dist.</li> </ul>
<b>KARNATAKA</b>	<ul style="list-style-type: none"> <li>▪ Columnar Lava, St Mary Island Udupi Dist.</li> <li>▪ Pillow lavas near Mardihalli, Chitradurga Dist.</li> <li>▪ Peninsular Gneiss, Lalbagh, Bangalore</li> <li>▪ Pyroclastics &amp; Pillow lavas, Kolar Gold fields, Kolar Dist.</li> </ul>
<b>CHATTISGARH</b>	<ul style="list-style-type: none"> <li>▪ Lower Permian Marine bed at Manendragarh, Surguja Dist.</li> </ul>
<b>HIMACHAL PRADESH</b>	<ul style="list-style-type: none"> <li>▪ Siwalik Fossil Park, Saketi, Sirmur dt.,</li> </ul>
<b>ODISHA</b>	<ul style="list-style-type: none"> <li>▪ Pillow Lava in Iron ore belt at Nomira, Keonjhar dist.</li> </ul>
<b>JHARKHAND</b>	<ul style="list-style-type: none"> <li>▪ Plant Fossil bearing Inter-trappean beds of Rajmahal Formation, upper</li> </ul>
<b>NAGALAND</b>	<ul style="list-style-type: none"> <li>▪ Nagahill Ophiolite Site near Pungro,</li> </ul>
<b>SIKKIM</b>	<ul style="list-style-type: none"> <li>▪ Stromatolite bearing Dolomite / Limestone of Buxa Formation at Mar</li> </ul>

## What are UNESCO Global Geoparks?

- These are **single, unified geographical areas where sites and landscapes of international geological significance** are managed with a holistic concept of protection, education and sustainable development.
- While there are **169 UNESCO Global geoparks** spread across 44 countries, India is yet to have one of its own.

## What is the Geological Survey of India?

- It was **set up in 1851** primarily to find coal deposits for the Railways. Presently, GSI is **an attached office to the Ministry of Mines**.
- The main functions of the GSI relate to creation and updation of national geo-scientific information and mineral resource assessment.
- It is **headquartered in Kolkata**.

**Source: PIB**

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