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Meghalayan Age — A New Phase in History

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Recently, Geologists have ratified a new unit of the Geologic Time Scale, known as the Meghalayan Age.

- The Holocene Epoch reflects everything that has happened over the past 11,700 years –when warming started after the last ice age.
- Therefore, we are currently in the Holocene Epoch, Meghalayan Age.

Meghalayan Age

Mawmluh Cave

- Located at an elevation of 1,290 metres, Mawmluh cave is one of the longest and deepest caves in India.
- The conditions here were suitable for preserving chemical signs of the transition in ages which an analysis of the stalagmite has now highlighted.

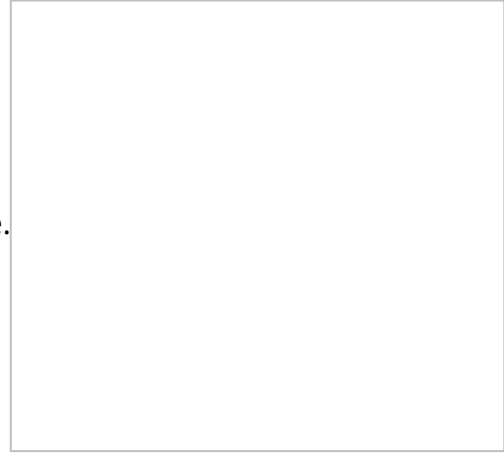
- The Meghalayan, which runs from 4,200 years ago to the present, experienced an abrupt mega-drought and cooling around the globe.
- It is the youngest stage of the Holocene Epoch.
- The Meghalayan Age is unique among the many intervals of the Geologic Time Scale in that its beginning coincides with a cultural event produced by a global climatic event.

- After collecting sediments from a stalagmite from the Mawmluh cave in Meghalaya, the smallest climatic event in Earth's history was defined.

Classification

- Geologists divide the 4.6-billion-year existence of Earth into slices of time such as Eon,

Era, System/Period, Series/Epoch, and Stage/Age.



- Eons are divided into Eras, Eras into Periods, Periods into Epochs, and Epochs into Ages.
- Each slice corresponds to significant happenings - such as the break-up of continents, dramatic shifts in climate, and even the emergence of particular types of animals and plant life.
- The Holocene itself is subdivided into three stages to denote the epoch's upper, middle and lower phases, according to the International Commission on Stratigraphy (ICS).

NOTE

- The International Commission on Stratigraphy (ICS) is the largest and oldest scientific body in the International Union of Geological Sciences (IUGS).
- It is the official keeper of geologic time, i.e. it precisely defines units (periods, epochs, and age) of the Geologic Time Scale.

The three substages are:

- The lower or the oldest phase of the Holocene - the exit from the ice age - is known as the Greenlandian.
- The middle phase of the Holocene is known as the Northgrippian and runs from 8,300 years ago up to the start of the Meghalayan.
The onset for this age was an abrupt cooling, attributed to vast volumes of freshwater from melting glaciers in Canada running into the North Atlantic and disrupting ocean currents.
- Meghalayan Age is the youngest (upper) phase.

Methods of Classification

- Each subdivision of the Holocene Epoch is marked out by sediments accumulated on sea floors, lake bottoms, glacial ice and in stalactites and stalagmites across the world.
- Clues to the Greenlandian and Northgrippian stages were available at specific levels in Greenland's ice cores (snow turns into ice, and preserves a record of the climate each year).
- However, the younger (newer) part of the Holocene, i.e. Meghalayan Age division was marked out by a deviation in the types, or isotopes, of oxygen atoms present in the layers of stalagmite rocks of Mawmluh Cave in Meghalaya.