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FEATURES

Cave of India, the Source to Identify the Latest Global Boundary: Meghalayan Age

A new geological time scale has been recently added in the earth's age which is based on the name of a state of Indian subcontinent "Meghalaya", 'Meghalayan Age'. As per the findings the period, Meghalayan Age began 4,200 years ago and experienced an abrupt mega-drought and cooling around the globe. The naming is based on a finding originated from a cave of Meghalaya "Mawmluh or Mawkhyrdop". Spelothem collected by an international team of researchers evidenced to define the smallest climatic event in Earth's history. After the end of the last Ice Age, then agricultural-based civilization that developed in several regions were affected severely by a long-lasting 200-year drought that resulted as an end of that era and human migrations towards Egypt, Greece, Syria, Palestine, Mesopotamia, the Indus Valley, and the Yangtze River Valley.

Till date, various research findings from all over the world indicated towards a 4,200-year climatic event. Interestingly, the Late Holocene Meghalayan Age was ratified as the most recent unit of the Geologic Time Scale. Before the present defined age, the Holocene was divided into two ages; the Middle Holocene Northgrippian Age (happened about 8,300 years ago) and the Early Holocene Greenlandian Age (happened 11,700 years ago). Thus, now it is considered that the three ages comprise the Holocene Epoch, which represents the time since the end of the last Ice Age. The origins of the three ages of the Holocene Epoch are represented by the accumulations of the sediment collected worldwide from the sea floor, lake bottoms, as glacial ice, and from calcite layers in spelothems (stalagmite).

The Meghalayan Age is based on a research finding entitled "An Abrupt Shift in the Indian Monsoon 4000 Years Ago" initially published in *Climates, Landscapes, and Civilizations*, Volume 198 (Geophysical Monograph Series). The project was led by Prof. Ashish Sinha, Dept. Earth Science & Geography, California State University Dominguez Hills and it is proud to state that National Cave Research and Protection Organization, India was also a collaborative part of the same project (<http://thehitavada.com/Encyc/2018/8/2/C-garh-is-linked-with-latest-finding-Meghalayan-Age.aspx>). Under the leadership of Prof. Sinha, National Cave Research and



Protection Organization, is currently involved in various researches on paleoclimatology, waiting for various revolutionary findings in the future.

As per the International Union of Geological Sciences (IUGS), France the Meghalayan Age is unique among the many intervals of the Geologic Time Scale in that its beginning coincides with a global cultural event produced by a global climatic event. The International Commission on Stratigraphy, which is responsible for standardizing the Geologic Time Scale, approved the definition of the beginning of the youngest unit of the Geologic Time Scale based on the timing of this event. The Commission further forwarded these proposals to its parent body, the IUGS, for consideration, and the executive committee of IUGS voted unanimously to ratify them. Units of the Geologic Time Scale are based on sedimentary strata that have accumulated over time and contain within them sediment types, fossils and chemical isotopes that record the passage of time as well as the physical and biological events that produced them.

Further Readings:

Walker, M., Head, M.J., Berkelhammer, M., Björck, S., Cheng, H., Cwynar, L., Fisher, D., Gkinis, V., Long, A., Lowe, J., Newnham, R., Rasmussen, S.O., Weiss, H., (2018): Formal ratification of the subdivision of the Holocene Series/Epoch (Quaternary System/Period): two new Global Boundary Stratotype Sections and Points (GSSPs) and three new stages/subseries IUGS, Episode.

(http://quaternary.stratigraphy.org/wp-content/uploads/2018/07/Walker-et-al.-2018_Episodes_online.pdf)

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