

## Reconstruction of Aceh Paleotsunami Aceh Base on Science, history and interview.

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*The Indian Ocean tsunami of 2004 is one of the biggest catastrophe of the last 100 years and has resulted in damaged infrastructure, loss of individual properties and environmental destruction in many coastal areas around the Indian Ocean region. And the death toll from the tsunami is estimated at more than 200,000 person with countless casualties. Moreover, scholar believe that the 2004 tsunami was simply one of many to have swept through in Aceh`s history. As such, there exists a body of local knowledge regarding these past tsunamis and earthquakes. The preservation and communication of this knowledge between generations has not, unfortunately, been prioritized. As such, there is a major information gap in most of the Aceh region resulting from the lack of continuity of this local historical knowledge. Had it been more widespread, this knowledge could have played a crucial role the 2004 tsunami, and it could be equally important for mitigating the risk in future disasters. Today, there are several ways to uncover the past tsunamis record of Aceh. One of them is paleotsunami, which combines a historical and scientific approach to create a record of the tsunami-history of a place. With paleotsunami, scientists can access the tsunami history of Aceh over thousand of years, i.e. by using carbon dating on tsunami sediment deposits, scientists can record a history of tsunami since the prehistoric period around 5000 years ago. When the tsunami causes sea water to flow inland, it creates horizontal sediment deposits, typically comprised of offshore and beach sand. These tsunami deposit act as geological evidence, which can be analysed using carbon dating to determine when the historical tsunami events occurred. Coastal geomorphology records can also detect past tsunami events by examining the evolution of the beach as an indication of past disturbances potentially caused by tsunamis. A third way to reconstruct the tsunami history of Aceh is through a historical approach. Ancient literature and personal prose manuscripts can provide written evidence of tsunami occurrences since 1000 years ago. By integrating paleotsunami with historical and scientific approaches, scientists can ensure more complete and precise records of tsunami occurrences in Aceh. In the future, develop Aceh Paleotsunami Digital Archive in the open data source platform is one of the ways to augment information regarding past disasters for the sake of higher quality global natural disaster information.*

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# Aceh Paleotsunami

