

# What coral microatolls tell us about sea-level rise

Understanding the historic changes to the sea level over the years can help Singapore better predict the extent of sea-level rise in the future and better prepare for it.

The **Straits Times** speaks to researchers from Nanyang Technological University to find out what coral microatolls are and how they work.



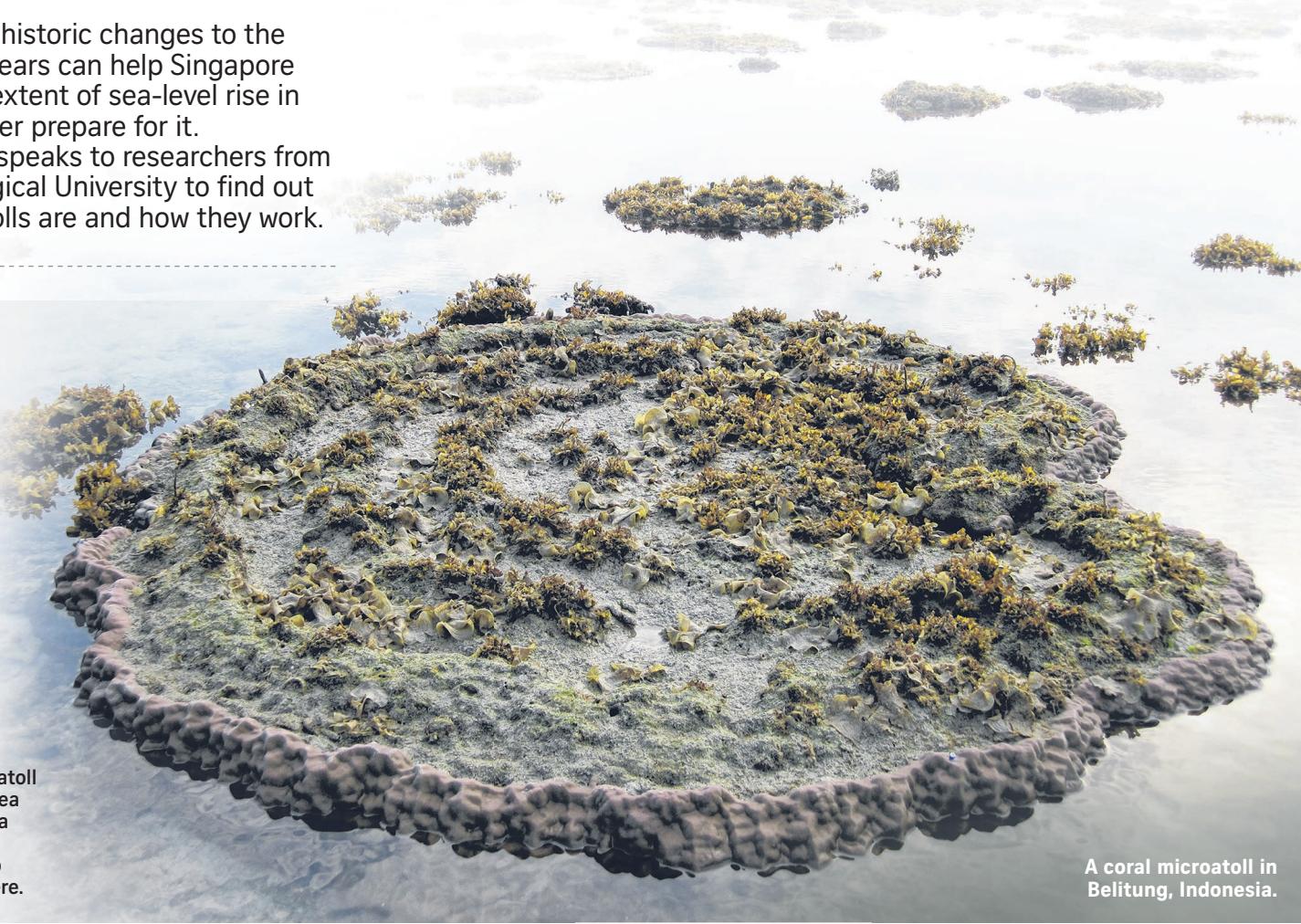
## WHAT IS A CORAL MICROATOLL AND WHAT DOES IT TELL US ABOUT SEA-LEVEL CHANGE?

- A coral microatoll is a single colony of coral, with its top surface made up of dead tissue due to exposure to air, while living tissue is found growing along its perimeter, forming growth rings similar to the ones found on tree trunks.
- These corals tend to grow sideways, as upward growth is usually limited by exposure to air.

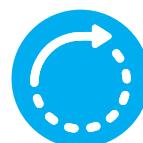
The coral microatoll can grow to several metres in diameter.  
• These rings therefore make these coral microatolls natural recorders of sea-level change, and scientists can trace these changes by counting backwards from the outer age where the living tissue is, to determine the age of any part of the coral.



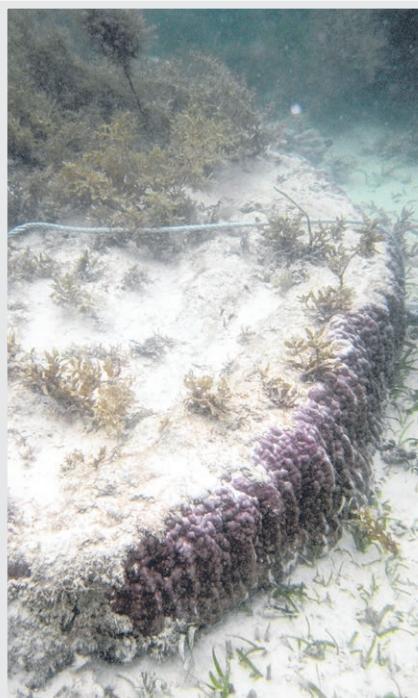
Coral microatolls at Mapur island in Indonesia. The first data point was recorded on the microatoll in 1915. Since tide gauge data for Singapore's sea levels began only from 1989, having earlier data helps in reconstructing sea-level changes for a large part of the 20th century. This can help to improve predictions for future sea-level rise here.



A coral microatoll in Belitung, Indonesia.



## HOW CORAL MICROATOLLS FORM



A close-up of a coral microatoll in Mapur, Indonesia.

