Antarctic melt down

After decades of expansion, Antarctica’s sea ice cover mysteriously decreased by an area about the size of Indonesia from 2014 to 2017, according to US space agency Nasa. Recent research also found that the glacial melting on the continent is accelerating towards a tipping point, beyond which the loss of ice into the ocean may become irreversible. The Straits Times takes a closer look at the melting continent.

### THINNING ICE SHEETS

- A glacier is a huge body of ice that moves slowly over land under its own weight, like a river of ice.
- The warming of the Southern Ocean is causing massive ice loss from Antarctica, affecting species and ecosystems.
- The complete loss of the West Antarctic ice sheet would cause sea levels to rise by about 5m.

### THE THWAITES GLACIER

- The Thwaites Glacier drains a vast part of the West Antarctic ice sheet, extending over 12,000 sq km. 
- In January, Nasa scientists found a hole under the Thwaites Glacier two-thirds the size of Manhattan. This is big enough to have contained Manhattan boroughs.
- If this hole develops, it could potentially lead to the collapse of the entire West Antarctic Ice Sheet.

### MELTING SEA ICE

- **Mysterious decline**
  - From 2016 to 2019, the Antarctic lost as much ice as the Arctic over 34 years, exceeding 250 billion tonnes for astronomical reasons.
  - The decrease is more than 2,800 times the area of Singapore.

- **Sea ice in Antarctica** is now thinner:
  - melts in the ocean, in contrast to icebergs which float in the sea.

### NATURAL BARRIER

- The Thwaites Glacier is like a natural barrier sealing and whales.
- It is home to an abundance of animal life, including penguins, seals and whales.
- It is the largest ice shelf in Antarctica, with a thickness of 15m between 1922 and 2011.

### THREATS TO WILDLIFE

- If Antarctica’s ice sheets collapse, it would cause sea level to rise by 5m.
- The complete loss of the West Antarctic ice sheet would cause sea levels to rise by about 5m.

### BUILDING AN ARTIFICIAL WALL

- Artificial wall: This adds the extra weight, reducing the melt rate and allowing the ice shelf to thicken and advance.

### CACHING ISOLATION

- Ice shelf: ice formed in the ocean.
- Melted ice: ice formed on land.

### IMPACT ON THE OCEAN

- Melted ice: ice formed in the ocean.
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