

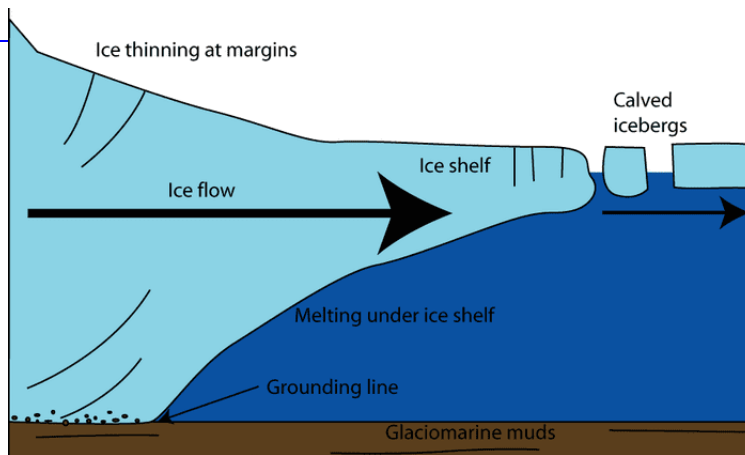


# Melting of Thwaites Glacier

## Why in News

Recently, a new study has detected the **presence of warm water at a vital point beneath the Thwaites glacier** as the cause of its melting.

## Key Points //



- The study has observed that the temperature of the water at the **grounding zone or grounding line** of the glacier is **two degrees higher than the freezing point** of the water.
  - The **grounding line** is the place below a glacier at which the ice transitions between resting fully on bedrock and floating on the ocean as an ice shelf.
  - The location of the line is a pointer to the rate of retreat of a glacier.
- When glaciers melt and lose weight, they float off the land where they used to be situated. It makes a retreat of the grounding line.
- That exposes more of a glacier's underside to seawater, increasing the likelihood it will melt faster. This results in the glacier speeding up, stretching out, and thinning, causing the grounding line to retreat ever further.

## Thwaites Glacier



- Thwaites Glacier is 120 km wide, fast-moving glacier **located in Antarctica**.
- Because of its **size** (1.9 lakh square km), it contains enough water **to raise the world sea level by more than half a metre**.
- Its melting already contributes 4% to global sea-level rise each year. It is estimated that it would collapse into the sea in 200-900 years.
  - Studies have found the amount of ice flowing out of it has nearly doubled over the past 30 years.
- It is important for Antarctica as it slows the ice behind it from freely flowing into the ocean. Because of the risk it faces — and poses — Thwaites is often called the **Doomsday Glacier**.

**Source: IE**

PDF Reference URL: <https://www.drishtias.com/printpdf/melting-of-thwaites-glacier>