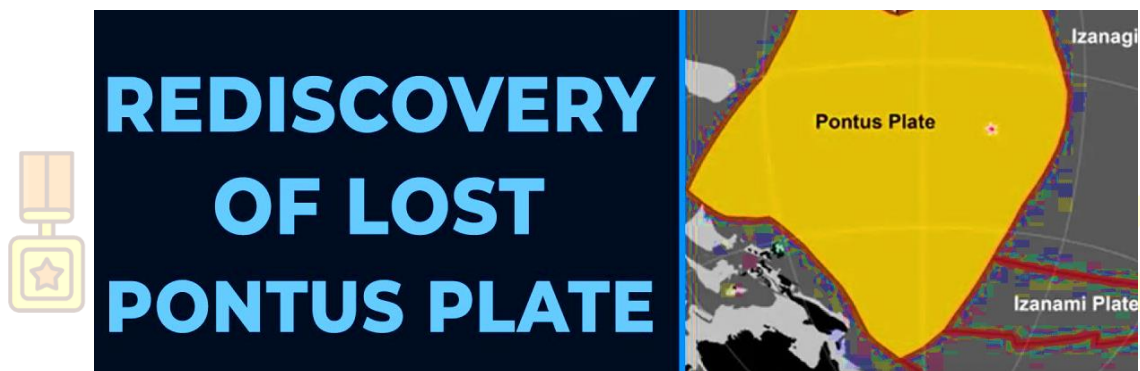


Scientists Discover 'Pontus' Mega Plate Disappeared 20 Million Years Ago

Why In News

- Scientists have made a groundbreaking discovery in the field of geology, identifying a long-lost tectonic plate in the **west Pacific** called 'Pontus'.
- A long-lost tectonic plate dubbed 'Pontus' was recently discovered by chance by **scientists studying ancient rocks in Borneo**, The plate had vanished over millions of years as it was subducted into the Earth's mantle.



Who Discovered

- **Suzanna van de Lagemaat**, a graduate geologist at Utrecht University in the Netherlands, and her supervisor, **Douwe van Hinsbergen**, deduced the plate's existence by piecing together geological data preserved in crumpled mountain ranges and oceanic fragments thrust atop continental plates throughout the Asia-Pacific region.

Aardiplaten

**Geologen verbaasd:
Utrechtse promovenda
vindt resten van een
gigantische verloren
tektonische plaat**

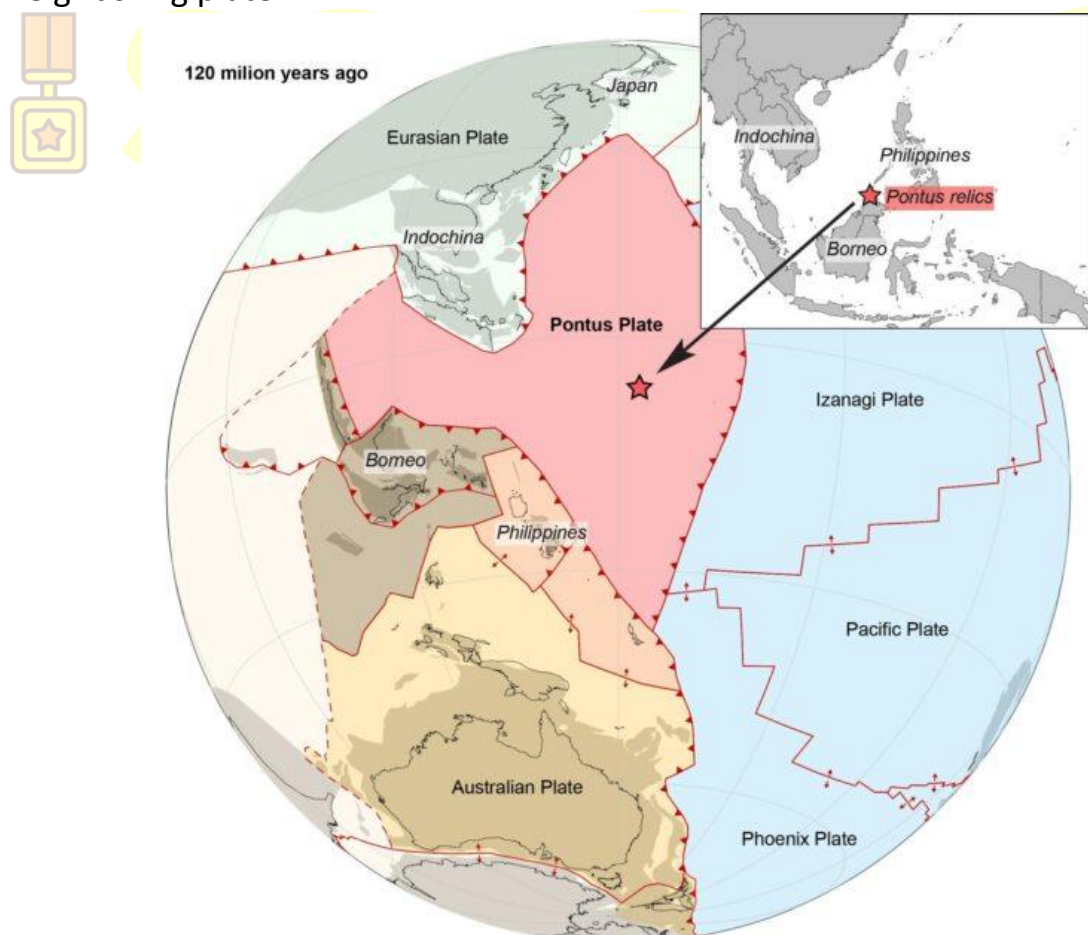


Suzanna van de Lagemaat promoveerde vrijdagochtend op haar onderzoek naar een voorheen onbekende tektonische plaat. Beeld: Wenny Crone

- Van de Lagemaat conducted field research and thoroughly examined the mountain belts of Japan, Borneo, the Philippines, New Guinea, and New Zealand.

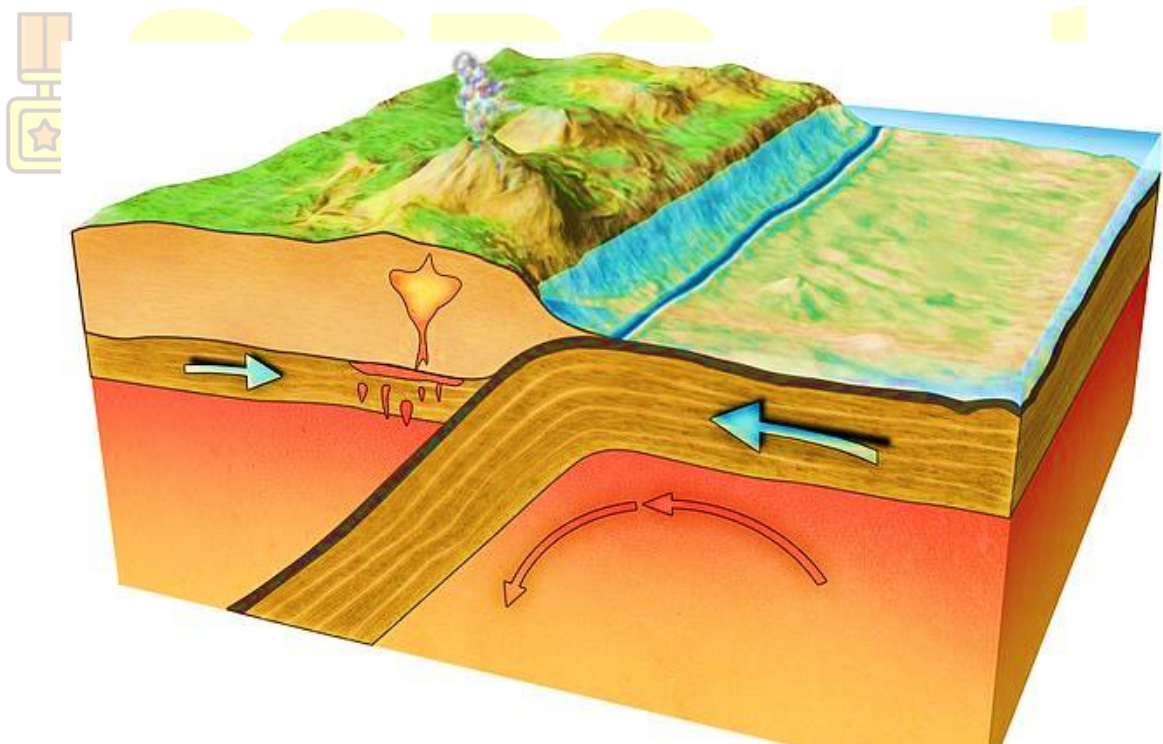
The Pontus plate

- A long-lost tectonic plate that once underpinned what is today the South China Sea has been rediscovered **20 million years** after disappearing.
- It has an extensive history, dating back as far as **160 million years** and more recently to around 20 million years ago.
- The resurfacing of the Pontus plate is the latest discovery in the world of plate tectonics.
- It is believed that the massive tectonic plate was once about **15 million square miles in size**, which equates to approximately **one quarter of the Pacific Ocean**.
- However, Pontus has been gradually **subducted beneath the earth** over the last millions of years. Scientists believe this gravitational force came from a neighboring plate.



The Science Behind The Discovery

- Pontus has been gradually subducted beneath the earth over the last millions of years. Scientists believe this gravitational force came from a neighboring plate.
- The **subducting plate is actually denser** than the surrounding mantle, so gravity basically pulls the plate down into the mantle.
- A subducted plate **leaves behind traces** when it 'sinks' into Earth's mantle – namely, fragments of rock hidden in mountain belts.
- During the process of subduction, however, the upper parts of the subducting plate are sometimes scraped off.
- The researchers used geological data to reconstruct the movements of the current plates with **computer modelling**, which hinted at a wide area potentially vacated by a subducted plate.
- Using **magnetic techniques**, researchers determined the basalt from Borneo were relics of Pontus that were left behind when this part of the plate subducted, some 85 million years ago.



Tectonic Plates

- Tectonic plates are **large pieces of the Earth's lithosphere** that are constantly moving.
- Tectonic Plate constantly **move against one another**, and the crust in oceanic plates is more dense than continental plates, so oceanic plates get pushed under continental plates in a process called subduction and disappear.
- Sometimes, however, rocks from a lost plate get incorporated into mountain-building events.
- These remnants can point to the location and formation of ancient plates.

