



Gravity Hole

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For a long time, geologists have been puzzled by the mystery of the "**Gravity Hole**" in the Indian Ocean.

- The **Earth's shape and gravity are not uniform** across its surface. Instead, it is slightly **flattened at the poles** and **wider at the equator** giving rise to the phenomenon of **gravity anomaly**.
- Moreover, the **gravitational force varies** depending on the **mass distribution** of the crust, mantle, and core below each location. The gravity hole in the Indian Ocean is one such example.
- The '**Gravity Hole**,' officially known as the **Indian Ocean geoid low**, is a huge depression in the sea level that is about **106 metres lower** than the global average and covers about **1.2 million square miles** area.
- It originates from the southern tip of India and was first noted by **Dutch geophysicist Felix Andries Vening Meinesz in 1948**.

TAKING A DEEP LOOK

What is a Geoid | The earth's surface is not a perfect ellipsoid but is more like an irregular shaped potato. Therefore, **scientists use an imaginary sea level shape called 'geoid' which has highs and lows from place to place.** The Indian Ocean exhibits the **largest drop** in the world, a depression of around **106 metres**

What is a tectonic plate | The **earth's outer shell is broken into massive pieces** of rock which are **around 100kms thick.** **Called tectonic plates,** they float over an underlying thick layer of hot, molten magma

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