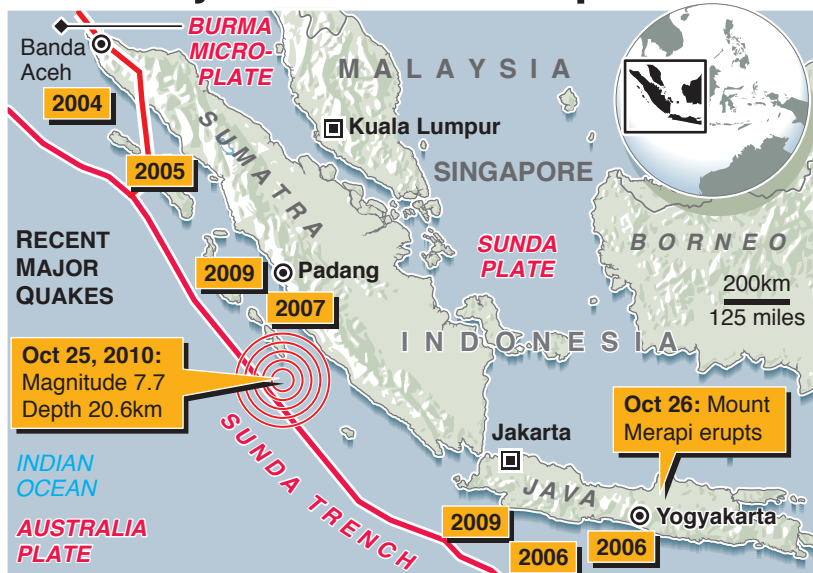


# Anatomy of Indonesia's earthquake zone



## Sunda Trench subduction zone

Australian Plate pushed under Sunda Plate at convergence boundary

**Volcanic arc:** Merapi one of 129 active volcanoes in Indonesia due to proximity of subduction zone

Ocean crust

Lithosphere (rigid shell)

Asthenosphere (highly viscous fluid)

**1** Water trapped in minerals and basalt rock of oceanic crust thrust beneath adjoining plate

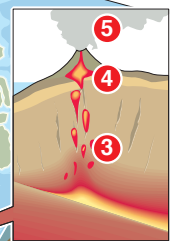
**2** Water released into asthenosphere mantle, lowering melting point

**Melting point**  
120-150km deep

**3** Molten magma rises due to lighter density

**4** Collects in chamber under or within volcanic cone

**5** Pressure relieved if water vapour and other gases escape – but if trapped, magma and gas build up to violent eruption



Lithosphere

Asthenosphere