

Earth Internal Heat Flow

Earth's internal heat flow and its sources and transfer modes. Estimates of the total heat flow from Earth's interior to the surface range from 43 to 49 terawatts (TW), with a commonly cited value of ~46 TW. Earth's heat originates from a combination of radiogenic heat produced by radioactive decay (estimated 15–41 TW) and primordial heat left from planetary formation and core crystallisation (estimated 12–30 TW). Apart from conduction through the solid inner core, the Earth's heat loss drives convection in the outer core as well as mantle convection, enabling solid-state flow in the mantle, which includes plate tectonics at the surface. Through the crust, heat transfers via conduction and even advection (through magma channels in, e.g., volcanoes).

- Creator: [Fabio Crameri](#)
- This version: 01.01.2026
- License: [Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](#)
- Specific citation: *This graphic by Fabio Crameri is available via the open-access s-ink.org repository.*
- Related reference: –

➡ **Latest version**

