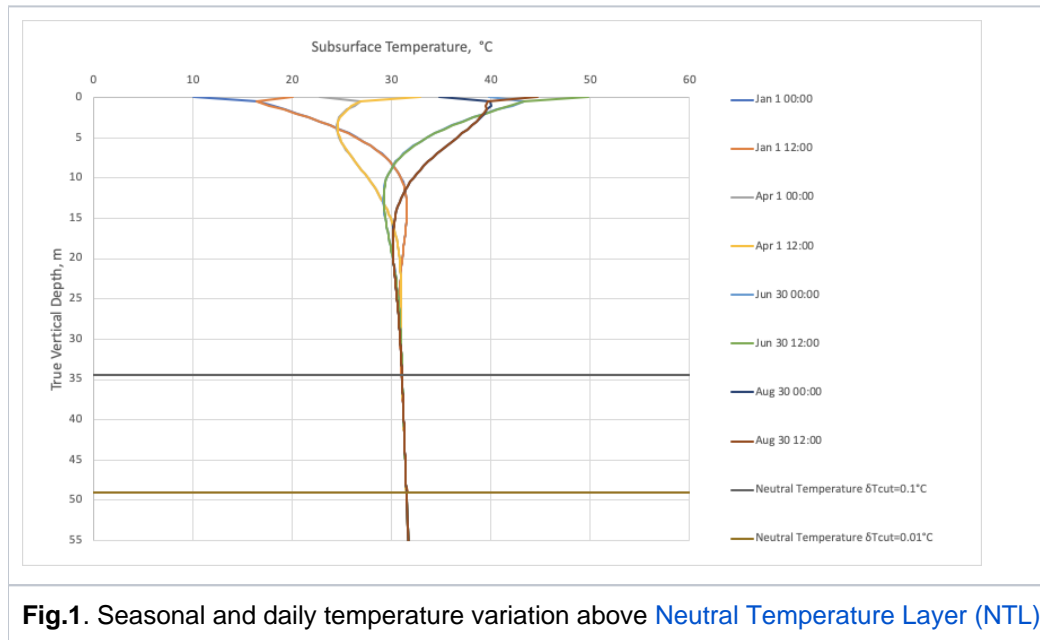


# Neutral Temperature Layer = NTL

A depth below [Earth's](#) surface which stays at the same temperature regardless of surface seasonal and daily temperature variations (see **Fig. 1**).



**Fig.1.** Seasonal and daily temperature variation above [Neutral Temperature Layer \(NTL\)](#)

Strictly speaking the surface temperature variations propagate down the [Earth](#) infinitely and it goes down to measurement accuracy to assess where exactly the surface temperature variations decay below the measurement threshold  $\delta T_{\text{cut}}$ , which is usually varies between the most common value of  $\delta T_{\text{cut}} = 0.1^\circ\text{C}$  down to the most accurate  $\delta T_{\text{cut}} = 0.001^\circ\text{C}$ .

**Fig. 1** shows a difference between [Neutral Temperature Layer](#) location for  $\delta T_{\text{cut}} = 0.1^\circ\text{C}$  (34 m) and for  $\delta T_{\text{cut}} = 0.01^\circ\text{C}$  (49 m).

In this sense, the [Neutral Temperature Layer](#) is more of an [engineering](#) concept rather than true physical property of the subsurface medium.

The temperature of the [Neutral Temperature Layer](#) is called [Subsurface Neutral Temperature](#) and usually denoted as  $T_n$ .

Within the accuracy of temperature measurements, the value of [Subsurface Neutral Temperature](#) equals to average annual surface temperature  $T_0$  based on weather reports:  $T_n \approx T_0$ .

## See Also

[Geology / Geothermal Temperature Field](#)

[ [Geothermal Temperature Field](#) ] [ [Geothermal Temperature Profile](#) ] [ [Neutral Temperature Layer \(NTL\)](#) ]

[ [Neutral Temperature Layer @model](#) ]

# Reference

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[GeothermalTemperatureProfile.xlsx](#)