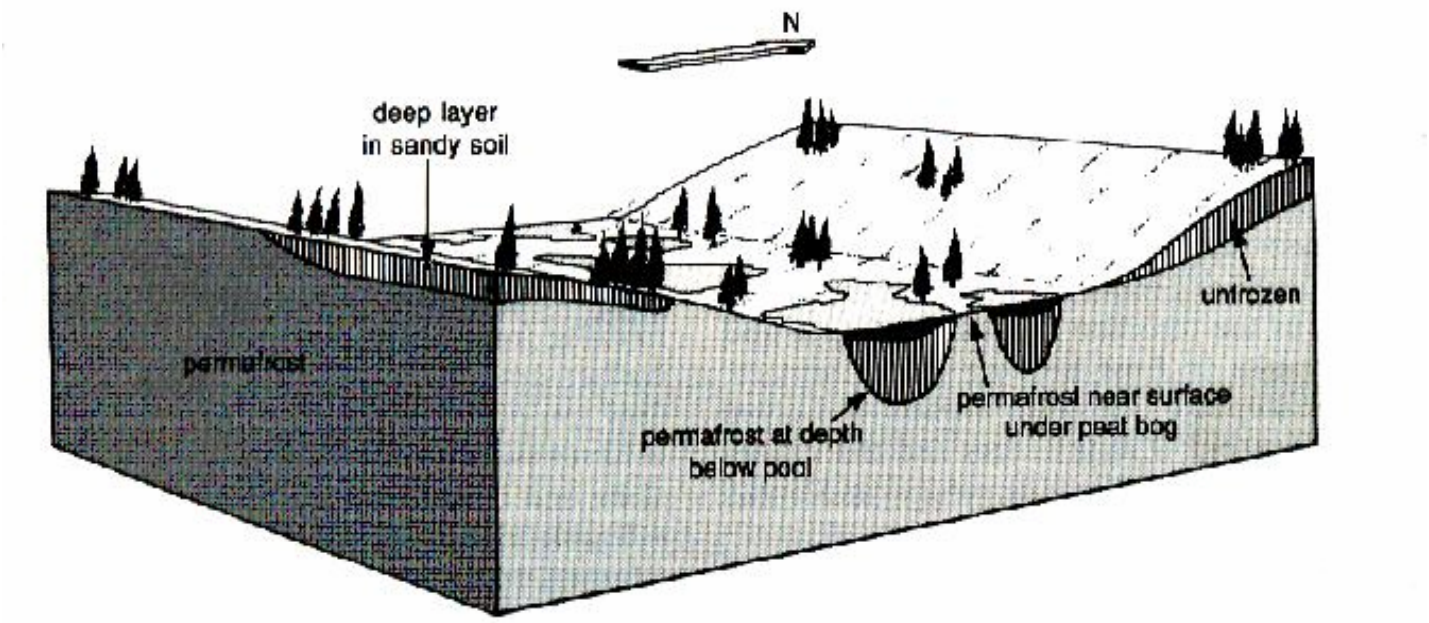
A2 Geography 4.2 Glacial Systems Student Notes

5. The Range and Variety of Periglacial Landforms

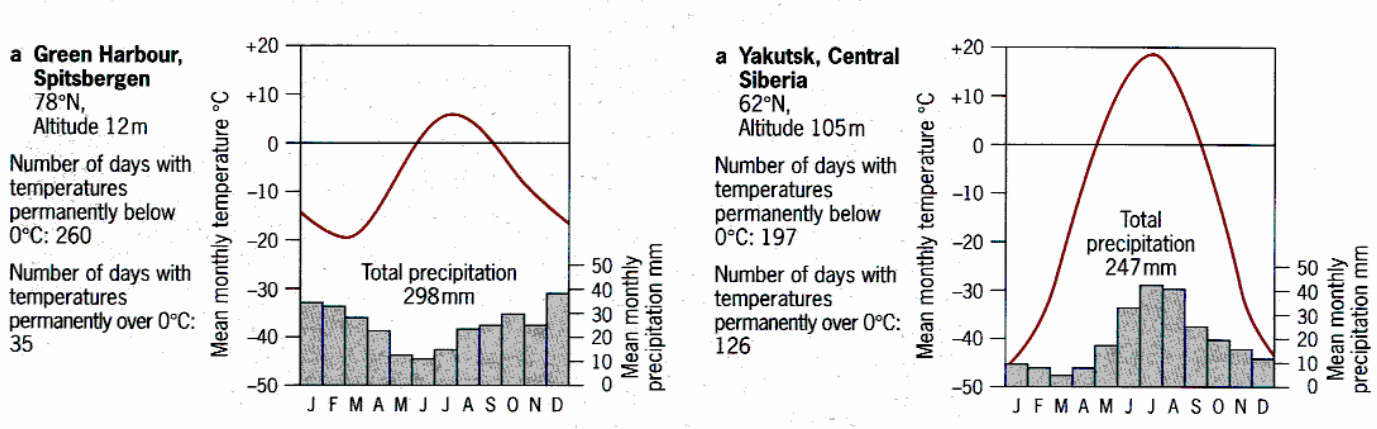
DISTRIBUTION OF PERMAFROST

At a Global and Regional Scale – See Map (Figure 5.1) in Waugh on page 130 and Transect (Figure 5.2) on page 131.

At a Local Scale (for example, around Fairbanks in Alaska), see diagram below:



Climate Graphs for Periglacial environments.

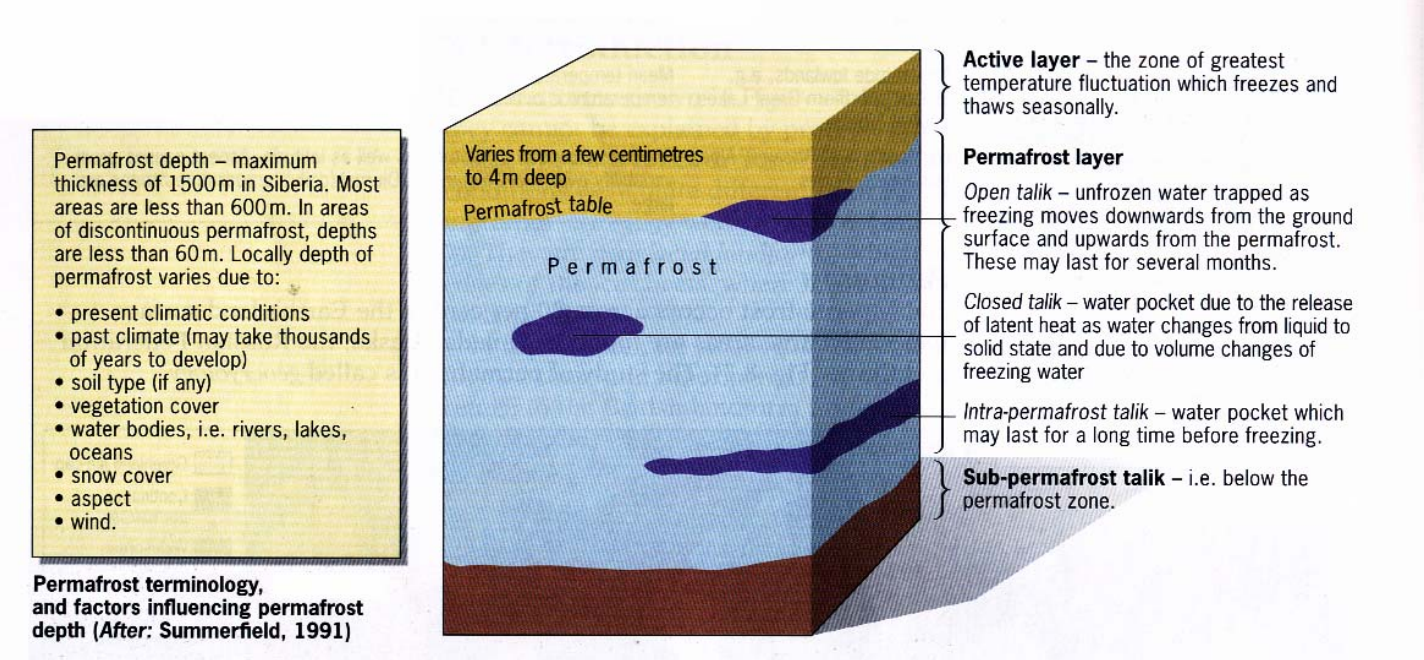


CHARACTERISTICS OF PERMAFROST

Permafrost: a condition below the ground surface where the temperature remains below $O^{O}C$ continuously for more than two years. If pore water is present, the ground can be frozen into a cement-like material. Permafrost can be subdivided into continuous, discontinuous and sporadic. Permafrost underlies about 25% of the earth's land surface, but it also occurs offshore in Arctic and Antarctic regions. Above the permafrost may be an active layer that thaws during the summer months.

Active layer: the top layer of soil/regolith in a permafrost zone, subject to seasonal freezing and thawing and, which, during the melt season, becomes saturated and very mobile.

Talik: a layer of unfrozen ground occurring between the permafrost and the seasonally frozen active layer.



Permafrost terminology, and factors influencing permafrost depth (*After:* Summerfield, 1991)

The Temperature Profile of Permafrost