



1 The Effect of Land-Use Changes on Subsurface Temperatures

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Subsurface temperatures have been applied successfully to reconstruct past changes in ground surface temperatures (GST), which in many cases are directly related to climate. However, variations in GST can also occur due to land-use changes and if this effect is not recognized and accounted for the reconstructed GST history will not necessarily reflect climatic variability. Land-use changes are most significant directly beneath the affected area but there are also effects that extend beyond this area due to lateral heat transport. Simulations conducted in this study address the magnitude and duration of temperature anomalies associated with land-use changes, as well as their lateral extent.