

**Regions where Vs and Qs anomalies suggest
mantle temperatures lower than assumed
(alternative and preferred explanation is Fe-depletion of cratonic lithosphere)**

Regions and T at z=100 km	$\delta V_s = V_s - V_s^T$ (% PREM) for V_s^T with account for anelasticity ^(a)	δT (deg C) required to explain δV_s		Regions and T at z=100 km	$\delta Q_s = Q_s - Q_s^T$ (% PREM)	δT (°C) required to explain δQ_s
		For δV_s with account for anelasticity ^(a)	For δV_s from linear Vs-T relationship ^(b)			
East European Platform (750°-850° C)	+1+2 %	-70° -150° C	-100°-250° C	East European Platform (750-850 °C)	+50	-250° C
North and Central Australia (900°-1000° C)	+1+2 %	-70° -150° C	-100°-250° C	Central Australia (900-1000 °C)	+150	In excess of -600° C
Slave and Hearne Provinces Canadian shield (900° C)	+1+2 %	-70° -150° C	-100°-250° C	Slave and Hearne Provinces (Canadian shield) (900 °C)	+100	-350° - 450° C
South-Central USA (900°-1000° C)	+1 %	-70° C	-100° C	South-Central USA (900-1000 °C)	+50	-250° - 300° C
Mobile belts of South Africa and Central Africa (*) (1200°-1300° C)	+5 %	-450° C	-400°-600° C	Central Africa (**) (1200-1300 °C)	+100	In excess of -600° C
Himalayas and the Tethys belt (*) (^) (1300° C)	+3+5 %	-250° -450° C	-250°-600° C	Himalayas and the Tethys belt (*) (^) (1300 °C)	+50+100	In excess of -600° C
West Siberia Basin and Taimyr peninsula (*) (1100°-1300° C)	+3 +4%	-250° -350° C	-500° -600° C	Arabian Shield (900-1100 °C)	+150	In excess of -600° C

(a) For V_s^T , δV_s , and δT calculated after Deschamps *et al.* (2002)

(b) For V_s^T , δV_s , and δT calculated from $\partial V_s / \partial T = 0.35$ m/s/K

^ T taken from published petrological and non-steady state constraints on the thermal regime

* Vs-T conversion used to constrain Fig. 9 can be invalid for this region because of high homologous T

** Eq. (6) used to constrain Fig. 8 can be invalid for this region because of high homologous T