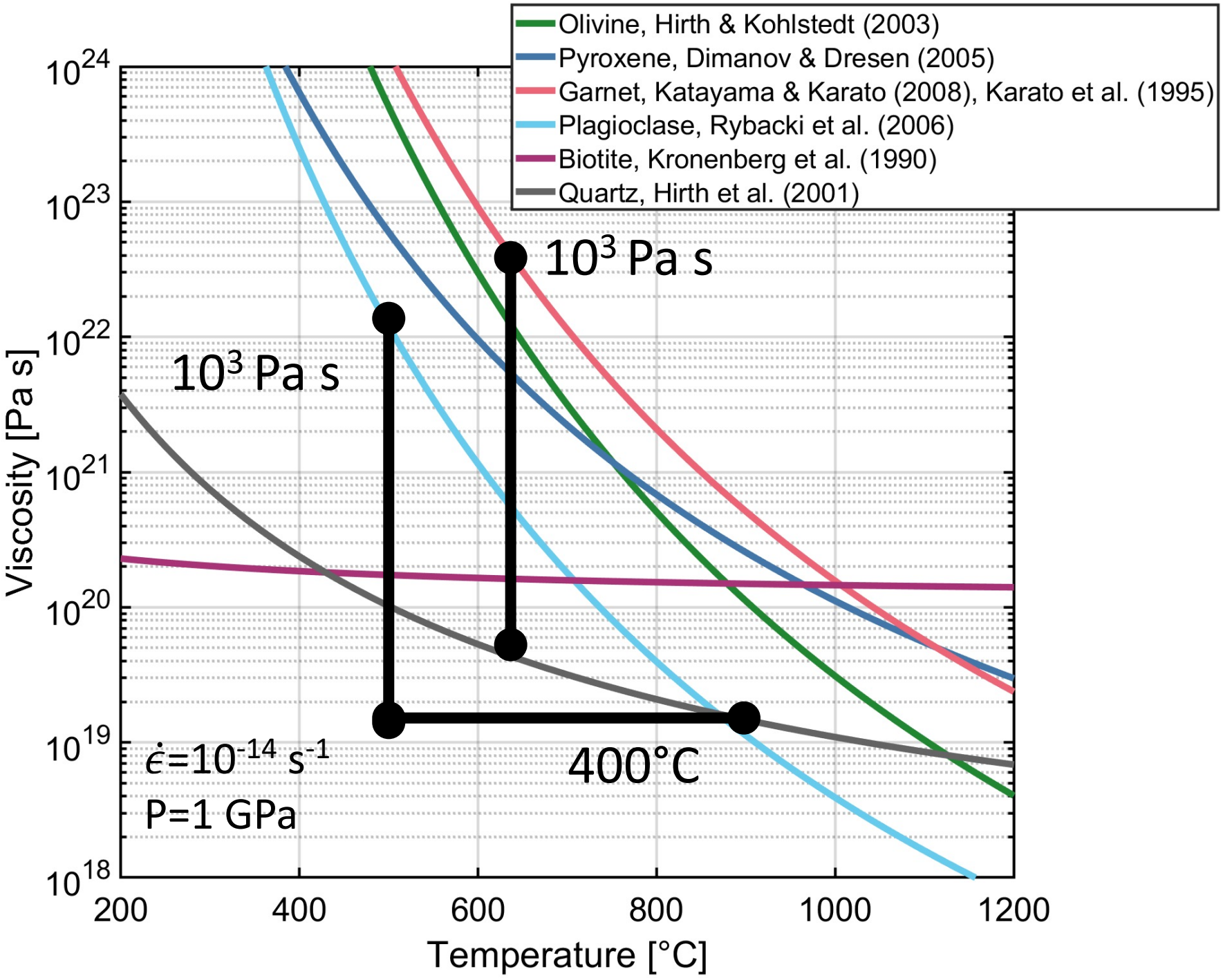
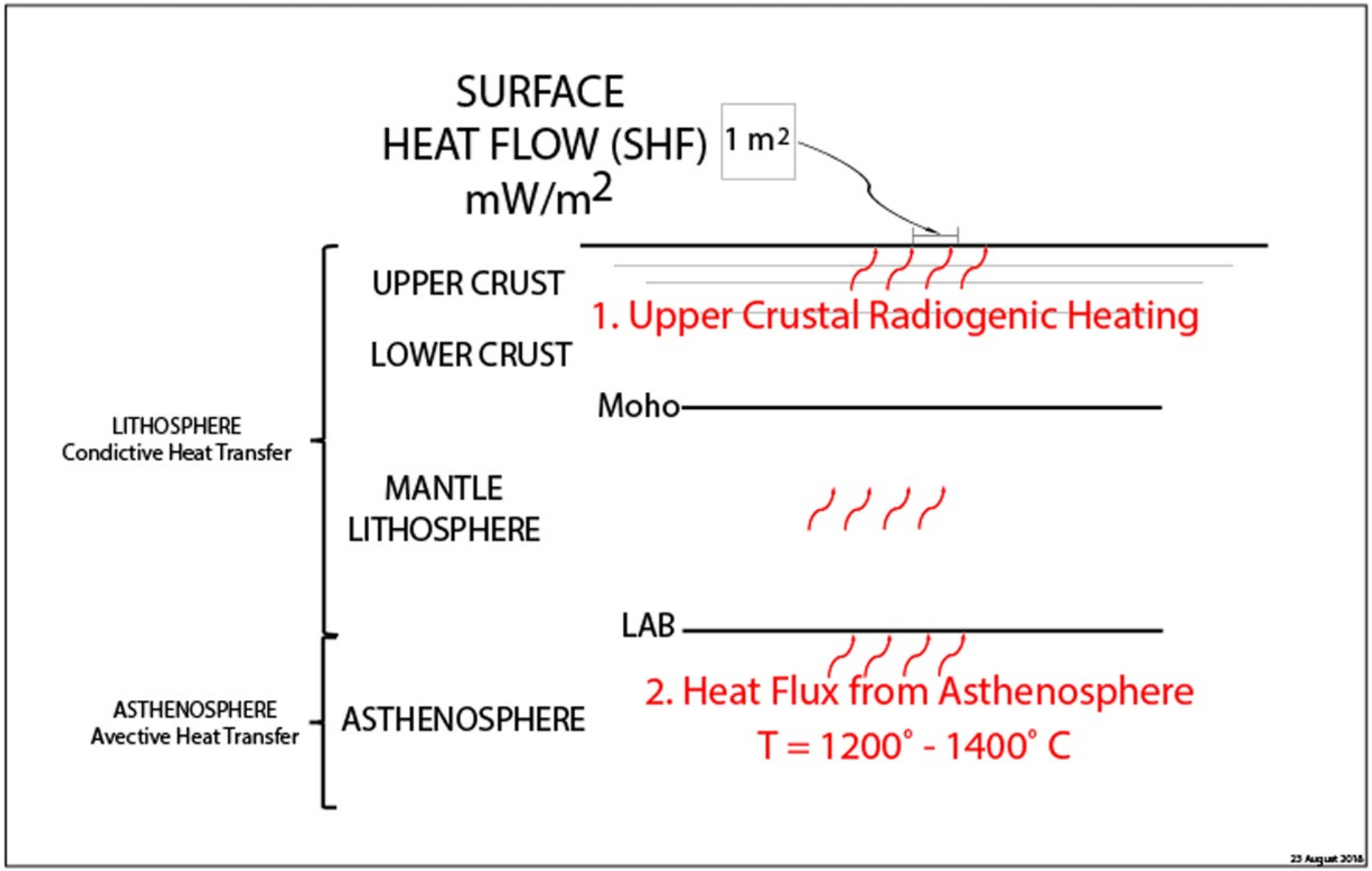
Integrating the CVM into the CTM/CRM

William Shinevar

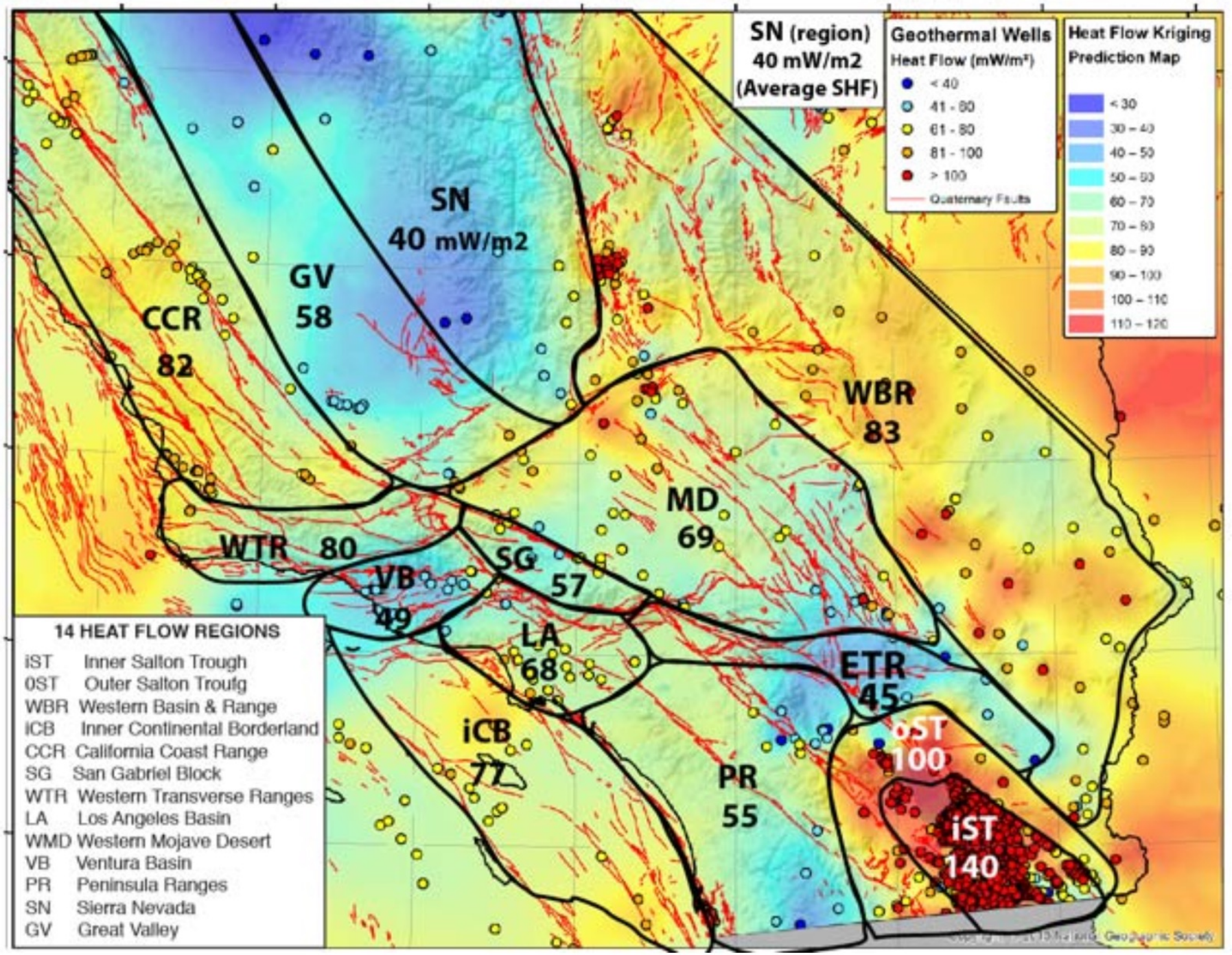


Temperature and then composition is widely recognized to be the dominant controls of viscosity. Thus, the CTM Is vital for the CRM.



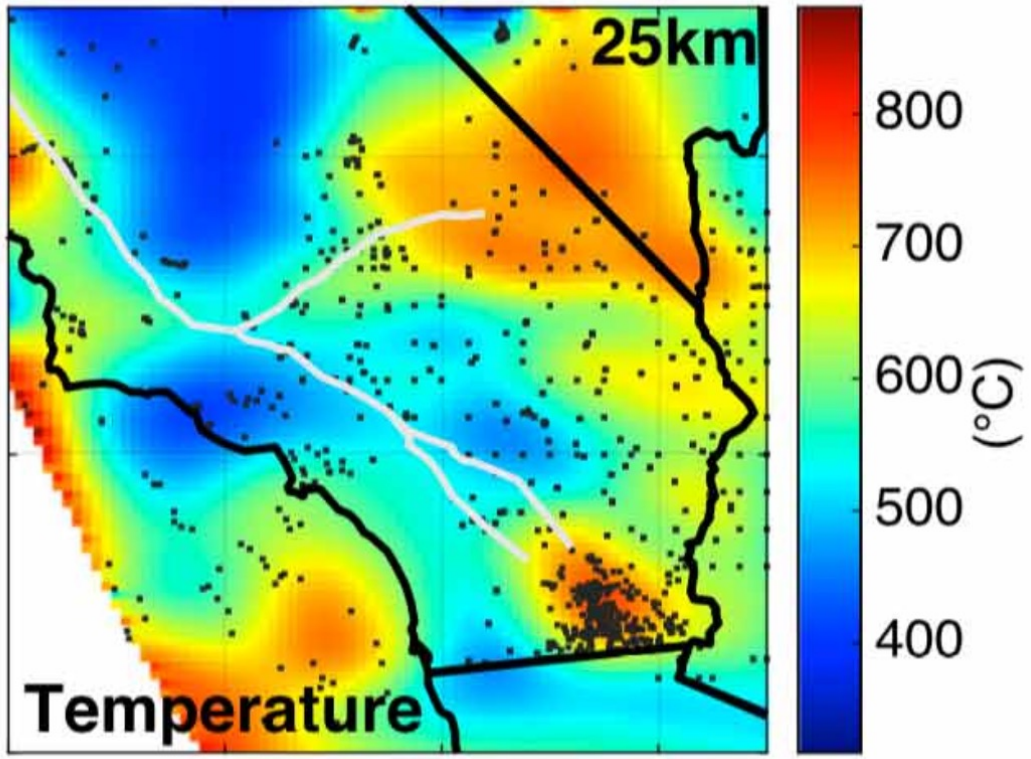
To model geotherms in 1-D, one needs at least two boundary conditions, usually surface heat flow and surface temperature and a radiogenic heat production profile.

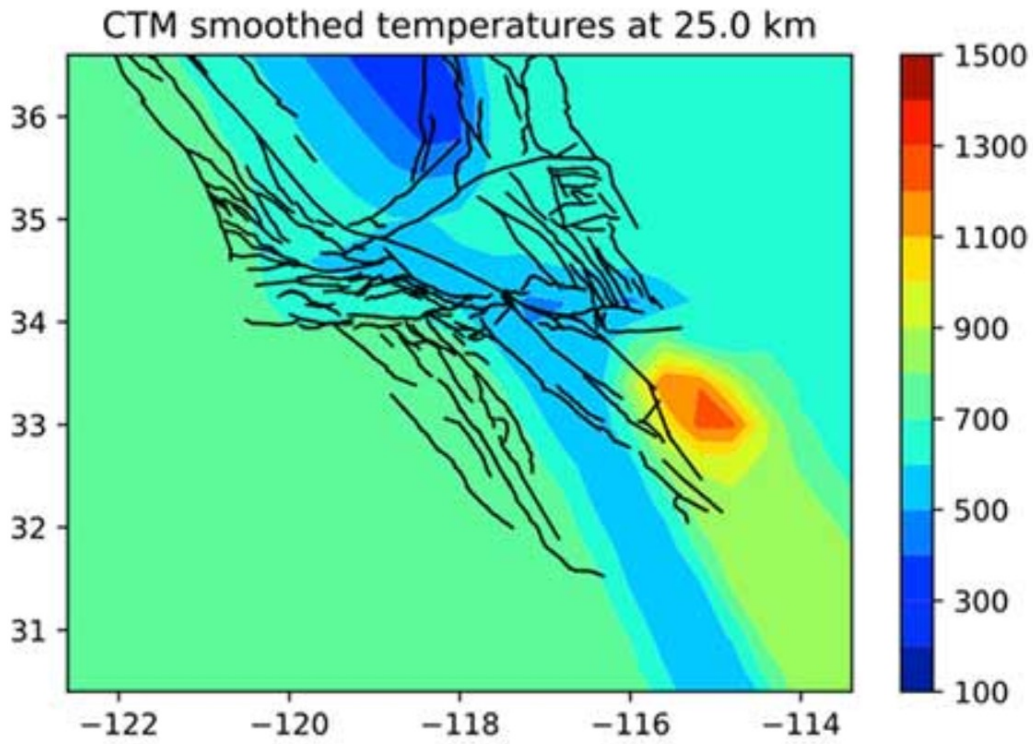
Thatcher & Chapman (2021)



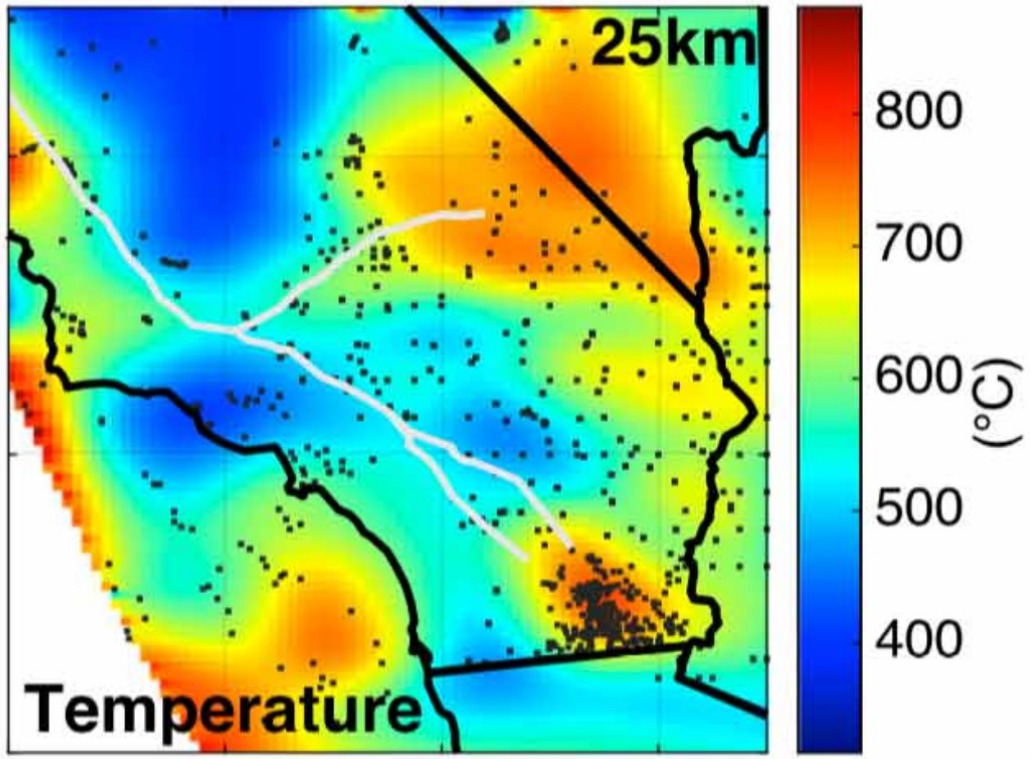
Surface heat flow is pretty well covered.

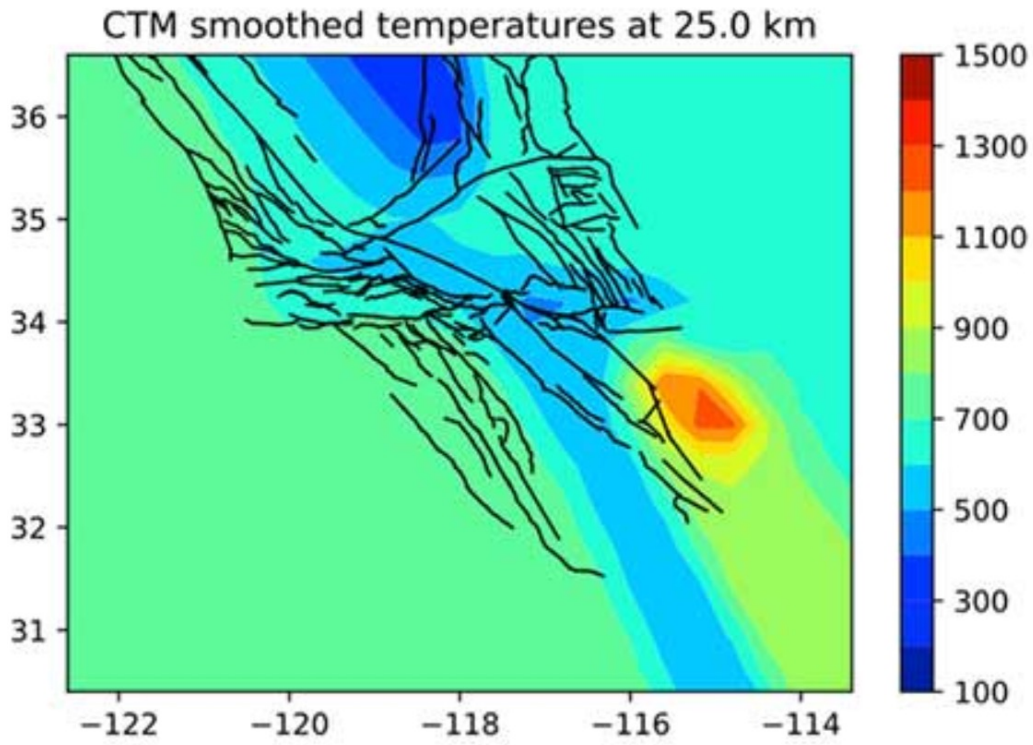
Williams & DeAngelo (2011)





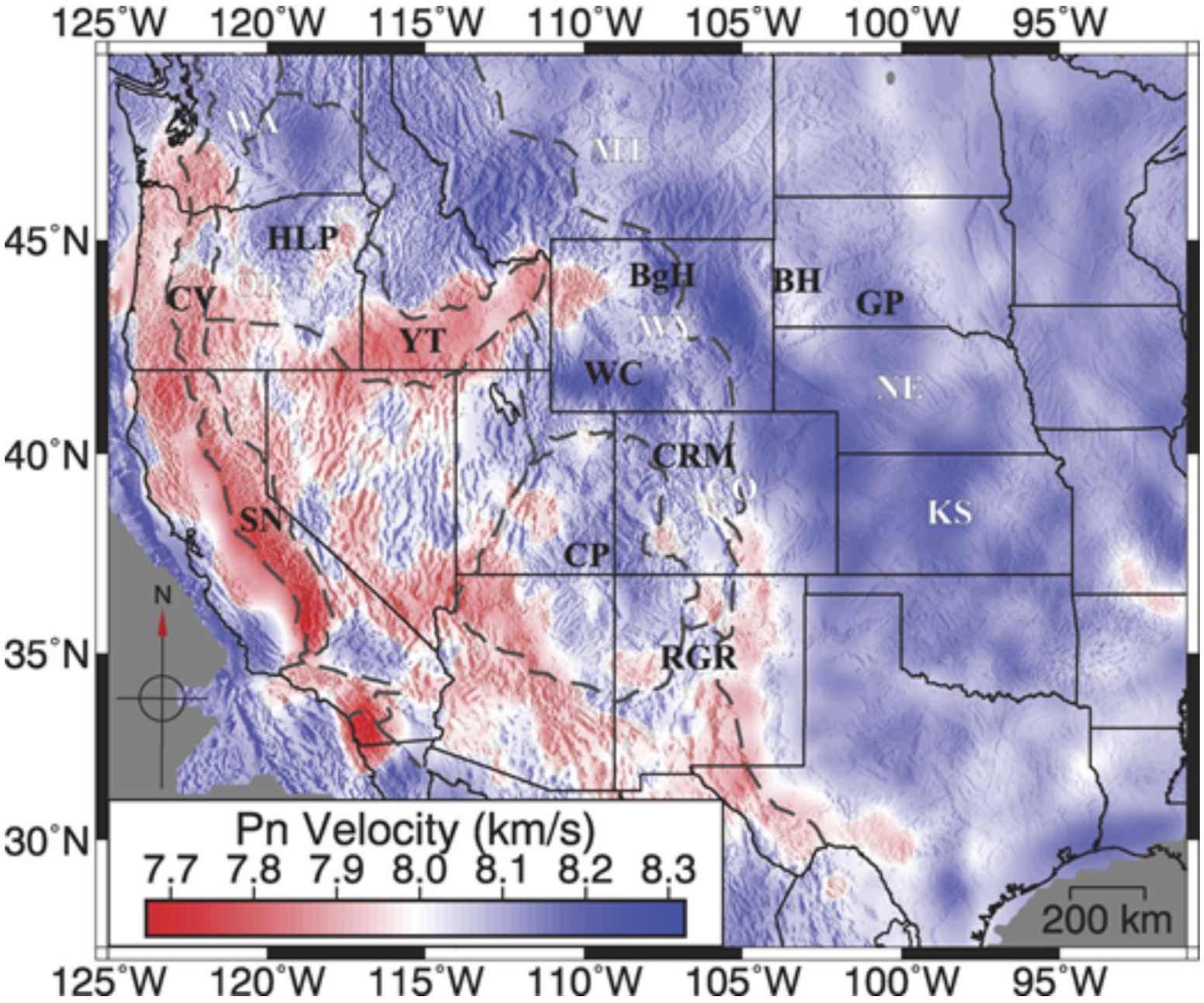
Can we add other mantle temperature estimates as optional constraints and show how they systematically differ?



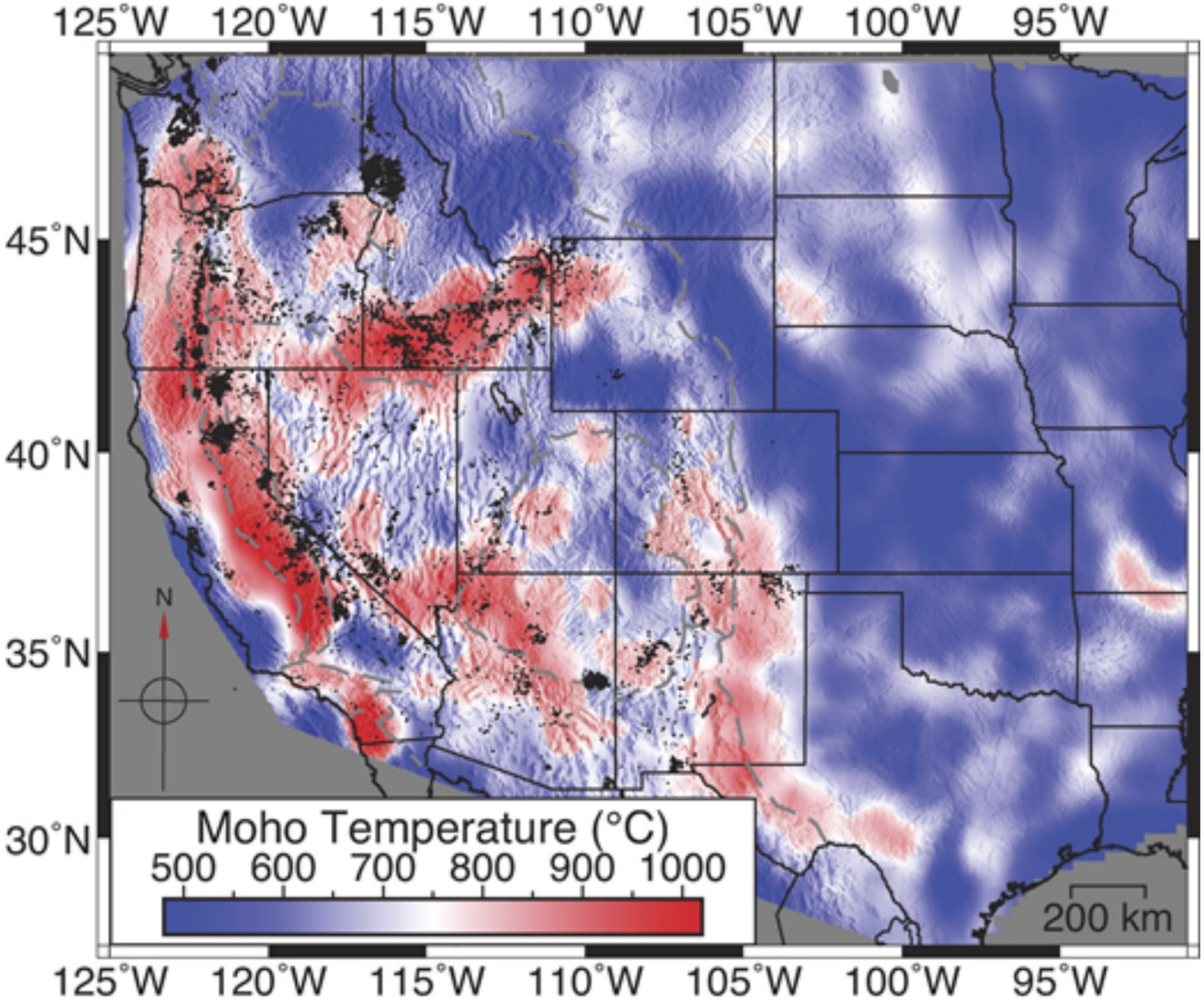


Different assumptions in boundary conditions can lead to similar, but different lower crustal temperatures.

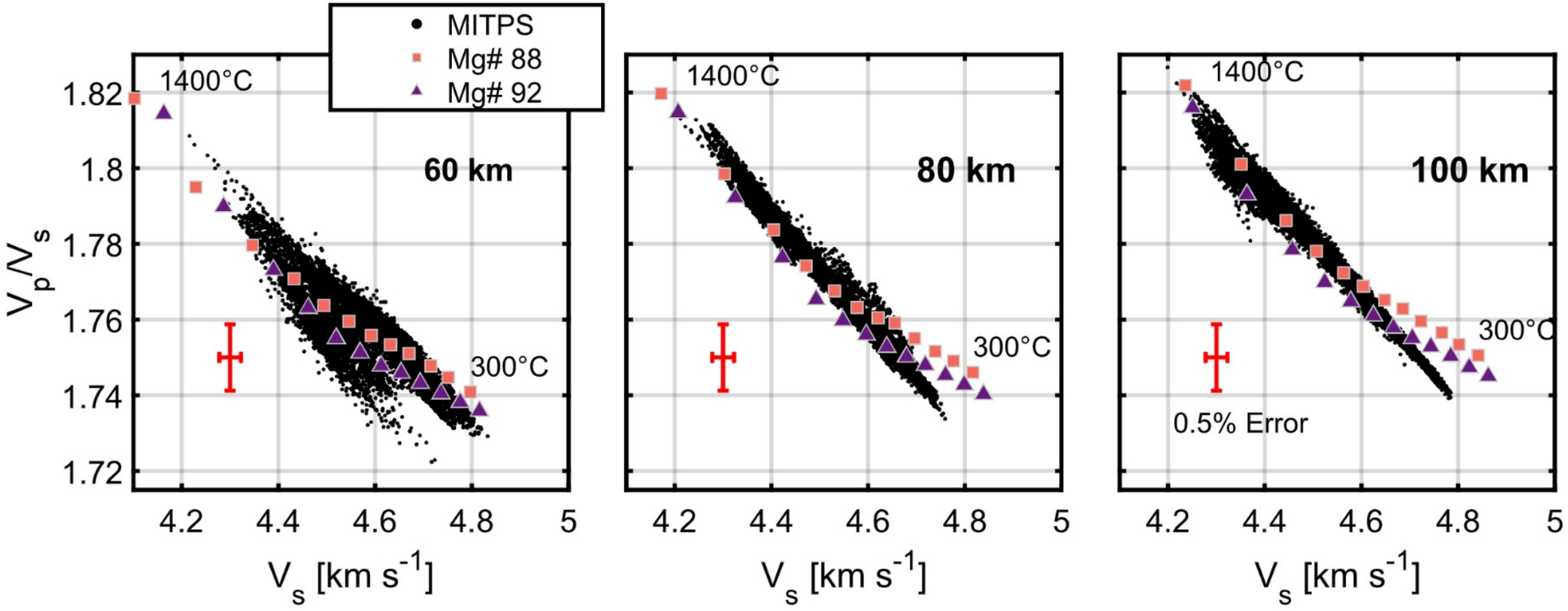
gure 1.



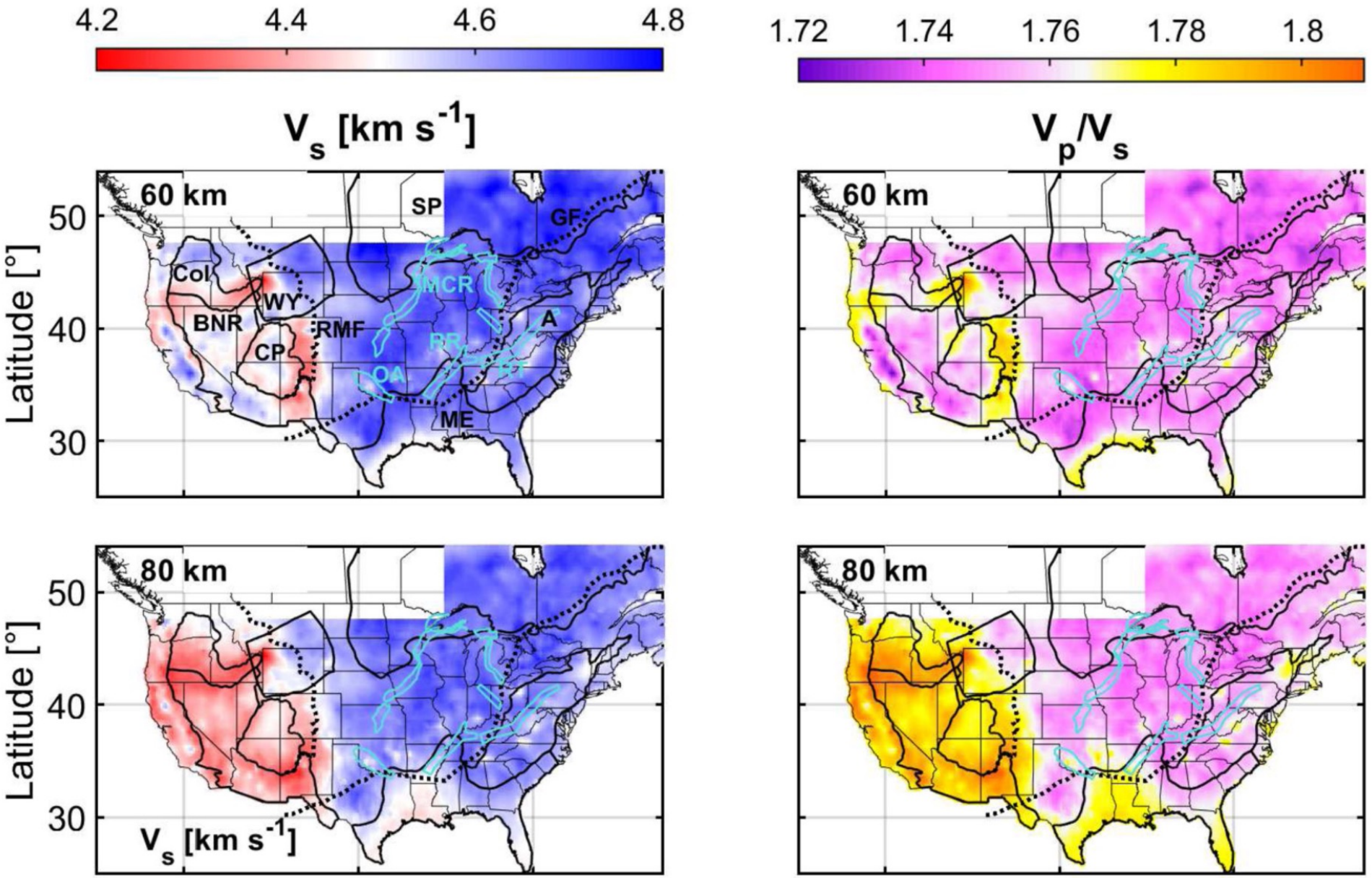
Schutt et al. (2018)



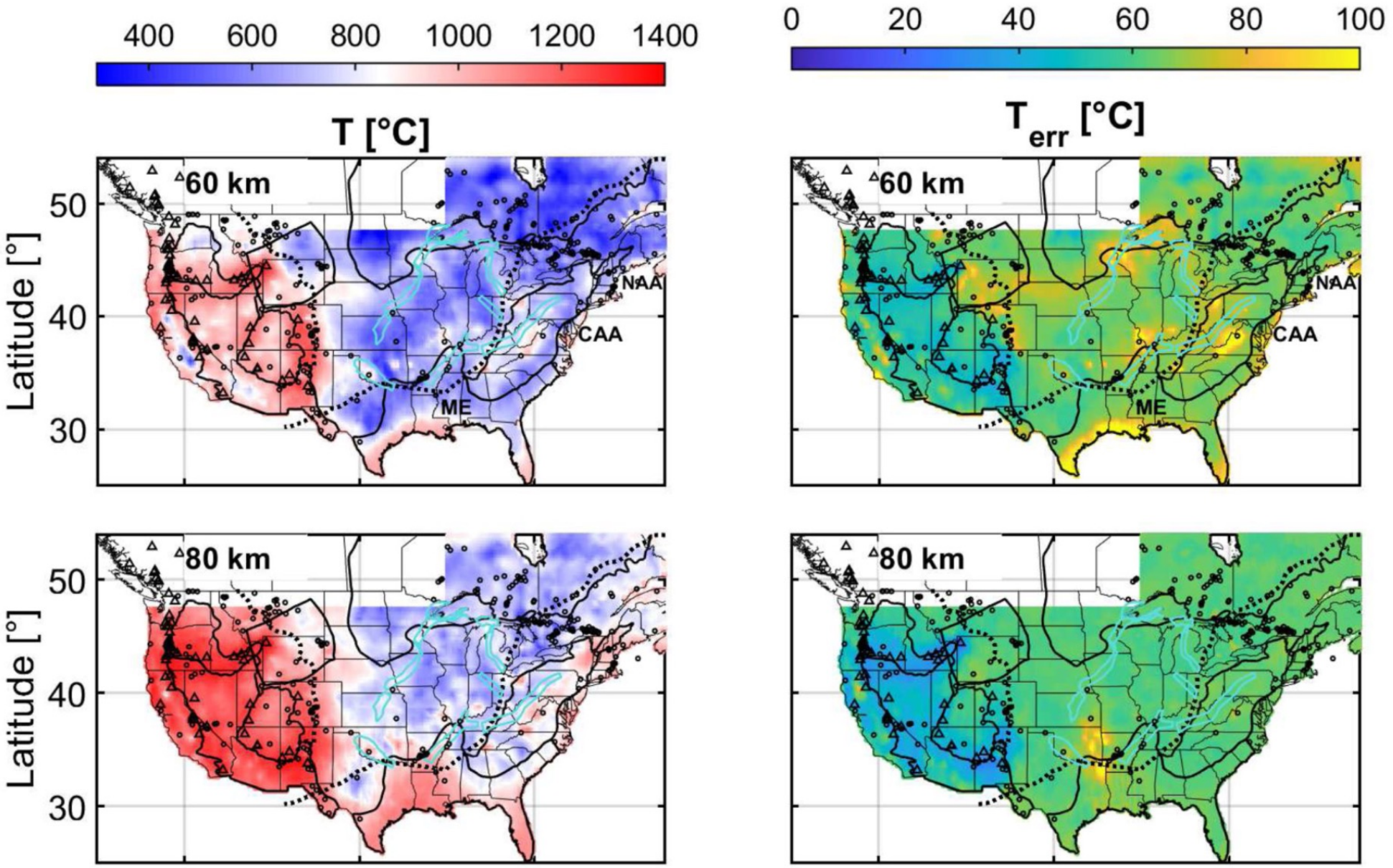
Schutt et al. (2018)



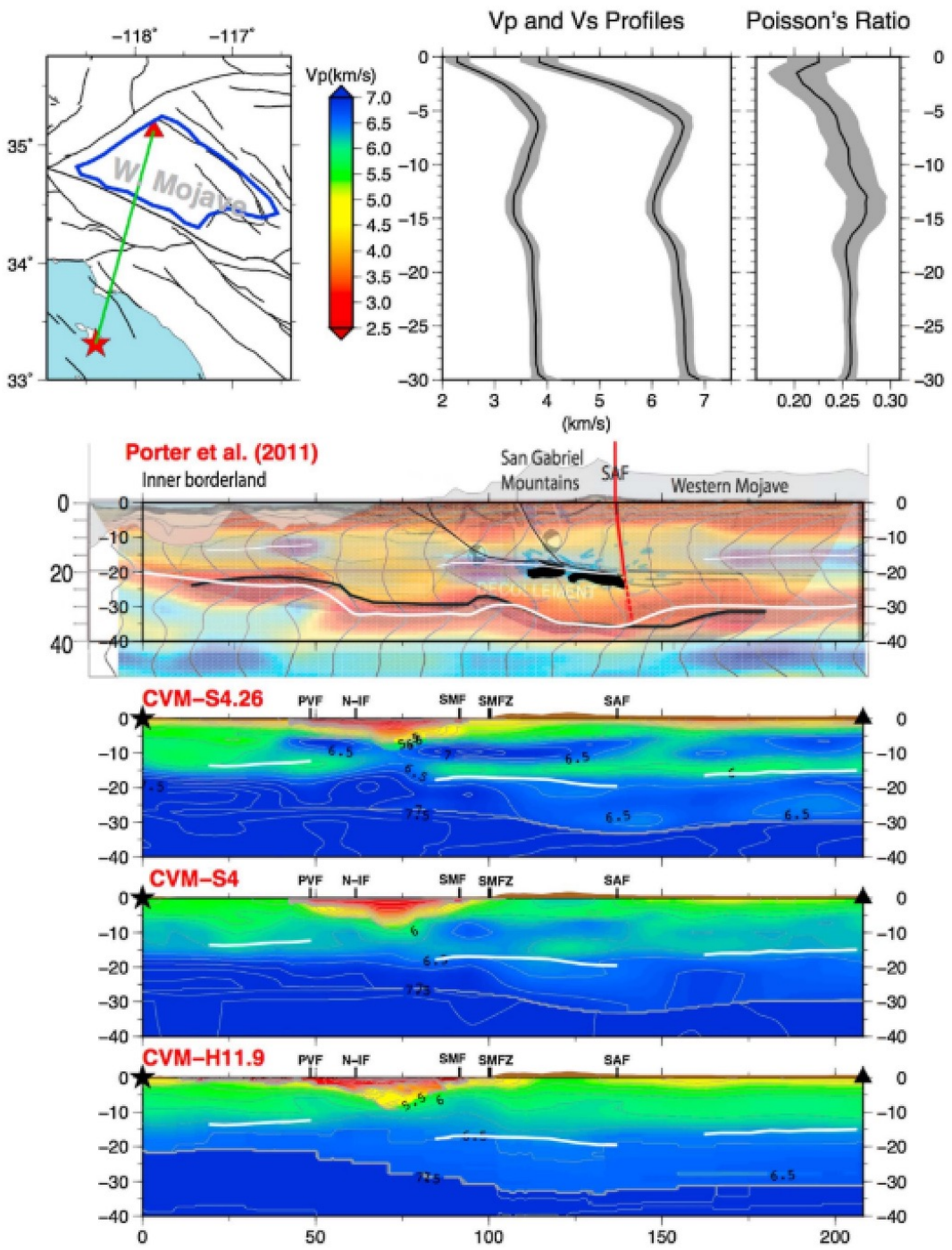
Shinevar et al. (2023)



Shinevar et al. (2023)



Shinevar et al. (2023)



Similar regional analysis could be processed and catalogued for CVM, allowing for a modular regional CTM.

Lee et al. (2014)