

To: Ed Cook, Climate Center Committee  
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**Ground-truthing the B/Ca proxy in tropical planktic foraminifer shells:  
Investigating the effects of pH, temperature, salinity and carbonate ion**

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**Abstract**

Published core-top studies [Foster, 2008; Yu *et al.*, 2007] have yielded conflicting results as to whether pH, carbonate ion or temperature control B incorporation into the shells of planktic foraminifers. Culture experiments carried out with *Orbulina universa* in 2008 showed no temperature effect but a strong pH and/or carbonate ion control, as well as a weak salinity effect. It is possible that foraminifers show species-specific responses to various parameters and it is clear that more research is needed to improve confidence in this proxy. Here we propose culture experiments with the tropical planktic foraminifers *Globigerinoides sacculifer* and *G. ruber* to test the effects of pH, temperature, salinity and carbonate ion.