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A palaeoclimatic study of the Eocene/Oligocene transition on the Isle of Wight, Hampshire Basin, UK

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The Eocene-Oligocene (E/O) transition ($\sim$33Ma) marks a shift from a greenhouse to an icehouse world. During this transition the first major Cenozoic expansion of ice occurred on Antarctica. Associated with this glacial event is a turnover in mammalian faunas, including the European 'Grande Coupure' (*Big Break*). Early marine based studies suggested this glacial episode may have triggered regional biotic extinctions as a result of a cooling in the mean global climate. However, more recent studies have found little evidence for a change in the mean annual climate of South America and Europe at this time. These conclusions support other studies which suggest that a cooling in winter temperatures may be linked to the marine faunal extinctions. Isotopic analysis of aragonitic gastropods from the fluvio-lacustrine Solent Group deposits of the Hampshire Basin, U.K, were used to investigate changes in seasonality across the E/O transition and Oi-1 glaciation. Initial isotopic analysis of micro-milled samples taken from several *Viviparus lentus* specimens produced signals indicating the preservation of seasonal trends and the covariance of δ^{18}O and δ^{13}C, in samples from post the Oi-1 onset. Shell thickening and the presence of cessation marks are generally associated with the most positive δ^{18}O values. Preliminary bulk isotopic results indicate a small positive δ^{18}O excursion associated with the Upper Hamstead Member (post Oi-1 onset). *V. lentus* samples exhibiting this excursion indicate a dampening of seasonality and more positive average δ^{18}O values.