

Paleoclimate and Changes in the History

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[1] none

(1) The depressions in annual Td' -derived SSTs correspond to the climatic deteriorations in the Japanese Islands and also in the Northern Hemisphere. The high events in the atmospheric residual ^{14}C record are recognized in the annual Td' -derived SSTs (Koizumi, 2007). The both annual Td' - and $U^{k'}_{37}$ -derived SSTs both in core MD01-2421 indicate 1-2°C warmer in the middle part (8.2-3.3ka) than earlier and later part of the Holocene period (Isono et al., submitted; Koizumi, submitted), but $U^{k'}_{37}$ -derived SSTs variations in coastal northern California contrast with that (Isono et al., submitted).

(2) Climatic deteriorations are synchronous with periods when serious changes occurred in human intellectual achievements during the Holocene period (Koizumi, 2007).

References:

Isono, D., Yamamoto, M., Irino, T., Oba, T., Murayama, M., Nakamura, T., Kawahata, H., submitted. The 1,500-year climate oscillation in the mid-latitude North Pacific during the Holocene. *Geology*.

Koizumi, I., 2007. Climate variations and changes in world history. *Jour. Geography* 116, 62-78.

Koizumi, I., submitted. Refinement of diatom SSTs (Td' ratio) off Japan reveal a warmer mid Holocene (8.2-3.3 cal kyr BP) (+1-2°C) suggesting an antiphase relationship with the northeast Pacific. *Marine Micropaleontology*.