

## **LATE PLEISTOCENE ENVIRONMENT CHANGES: USING ORGANIC CARBON ISOTOPE AS A PROXY**

1KU, F.H., 1HSIEH, C.C., 1CHEN, Y.G. and 2LIN, W.H. 1Dept. of Geol., NTU, Taipei, Taiwan; 2Cent. Geol. Surv., Taipei, Taiwan

Organic carbon contents and isotopic compositions of core sediments from San-liao-wan of southwestern Taiwan were carried out to distinguish the source change of organic carbon. Analyzed materials also contain sandstone and shale from its catchment area and modern sediments including shallow marine, lagoon and river. The isotopic results of catchment area are as light as C3 plant, indicating they are affected by diagenesis. The riverine sediments are separated into two fractions by a sieve of 0.0625mm. The  $\delta^{13}\text{C}$  values of the fine grain fraction are distributed in a more narrow range than of the coarse fraction, which is also close to the values of catchment strata. The  $\delta^{13}\text{C}$  values of shallow marine and lagoon are quite close, indicating that their organic matter might be from similar source. Based on radiocarbon ages, a correlation is made between isotopic results and the global sea-level curve. At the interval of 150 to 200m, i.e., Stage 3, the  $\delta^{13}\text{C}$  values were fluctuated, suggesting a history of alternating transgression and regression. At the interval of 100 to 150m, i.e., Stage 2, the heavier  $\delta^{13}\text{C}$  values imply that C4 plant was an important source of organic matter and the concurrent climate was relative arid. At the interval of 25.7-100m, i.e., early to middle Stage 1, the  $\delta^{13}\text{C}$  values fall in the range of shallow marine and lagoon sediments, with which the sedimentary environment during that time period might be correlated. The top 25.7m again shows fluctuated  $\delta^{13}\text{C}$  values due to the contribution of terrestrial organic matter.