

## **Marine Terraces of the Eastern Coast of Korean Peninsula**

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### **ABSTRACT**

In South Korea, marine terraces have been well developed along the eastern coastal zone, and previous researches on the marine terraces have also been focused on to this coastal zone.

The marine terraces of the eastern coast of South Korea had been classified into three terrace groups, that is, the higher, middle, and lower surface ones, according to the heights of marine terraces by previous studies(Oh, 1981 ;Chang, 1987 ;Yoon et. al, 1999, 2003 ; Hwang and Yoon, 1996 etc.). Recently, however, it tends to classify the marine terraces based on the concept of geomorphic surface units(Lee, 1987 ; Kim, 1990 ; Choi, S. 2003; Choi S. et. al 2003a,b, etc).

For example, it was proposed that the marine terrace surfaces of Eupcheon coast of the southeastern coastal area of Korea could be classified into 16 geomorphic surfaces, i.e., Eupcheon 1terrace(former shoreline height of 160m), 2(153m), 3(140m), 4(130m), 5(124m), 6(115m), 7(100m), 8(92m), 9(82m), 10(71m), 11(62m), 12(53m), 13(43m), 14(35m), 15(18m) and 16(10m) surfaces, in descending order, according to the former shoreline heights(Choi, S, 2003 ; Choi, S. et. al, 2003a,b). Among these terraces, Eupcheon 1, 2, 4, 5 and 7 surfaces had not been reported in previous works.

Among the above mentioned marine terraces, Eupcheon 15 terrace, the most widely and continuously distributed marine terrace have been identified as marine terrace of the Last Interglacial culmination period(oxygen isotope stage 5e) which was based on amino acid dates(124~125ka BP) and geomorphological features such as red soil, pollen analysis, fossil cryogenic structures and crossing terrace concept. Eupcheon 15 terrace surfaces have also been proposed as the key surface for the identification and correlation of the so-called '5e' marine terrace in the eastern coast of South Korea. This terrace was reconfirmed as the Last Interglacial culmination period, which was based on the identification of Ata tephra, one of the wide-spread marker tephra which indicates the Last Interglacial culmination period in Japan by Sasaki et. al(2002).

It was thought that marine terraces of the eastern coast of South Korea had been formed by the steady-state uplifting during the Quaternary glacio-eustatic sea level changes(Choi, 1997). The uplift rate of 10cm/1,000years had been proposed in the eastern coast of South Korea based on the former shoreline altitude(18m) of the above Eupcheon 15 terrace. Therefore, it can be estimated that Eupcheon 1 terrace had been formed in the early Pleistocene from the above uplift rate.

The OSL dating for the samples of Eupcheon 7, 9, 13, 15 and 16 terraces and identification of marker tephra in the terrace deposits are in progress. It is expected that more elaborate chronology on the marine terraces of the eastern coast of South Korea could be established by these absolute dates and marker-tephra.