On the background levels of CO_2 observed at Tae-ahn Peninsula in Korea during 1990-1992

(한국의 태안반도에서 관측된 이산화탄소의 배경농도에 관한 연구)

- 1990-1992년 자료를 중심으로 -

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Since November 1990, the observations of carbon dioxide (CO_2) levels have been carried out at Tae-ahn Peninsula (TAP) in Korea. Analysis on atmospheric data obtained in the period from November 1990 to August 1992 is carried out and the results are included in this study. It is observed that variations of monthly average level on CO_2 are in the range of 315.72 - 365.37 ppm (amplitude 17.65 ppm). The seasonal variation is large with a maxinun occurring in March-April and with a minimum in July-August.

A comparison of TAP data is made with data obtained at Ryori in Japan for 1991. The annual average value of TAP is 1.79 ppm higher than those of Ryori. It is also found that in summer the minimum level of CO_2 at TAP is almost same as the CO_2 level occurring at Quinghal Province in China and at Ulaan Uul in Mongolia. Albeit, a maxinun conerntration of CO_2 at TAP is slightly higher than the same gas observed at other sites in spring. We interprete that TAP is generally under the influence of airflows coming from China.

According to analysis of trajcctories and airflows, we find high values of CO_2 when an air folw is originated mainly from China and when an airflow is both of local (Korea) and of China origins. In contrast, when an airflow of maritime origin arrives a low value of the atmospheric constituent is observed at TAP.