Isotopic Variation in Precipitation with Regional Difference in Korea

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Tritium and stable isotopes in precipitation were analyzed on a monthly base with different region in Korea. Three different regional precipitations(centeral, west and south island region) were collected and isotope contents were compared. The west part precipitation was influenced from continental air and south part was influenced from Pacific Ocean air. The concentration of tritium in central region was ranged from 2.27 to 15.71 TU and west region was ranged from 1.61 to 7.63 TU. The south island region was ranged from below 0.5 TU to 5.4 TU. The tritium content in precipitation on island was lower than in central and west part. The results reflected the general tritium content value in the Northern Hemisphere.

The stable isotope analysis of island results showed that the mean value of $\delta^{18}O$(%) was -6.28 and ranged from -11.70 to -1.67. And the mean δ D(%) value was -36.33 and ranged from -85.56 to -4.27. The mean deuterium excess value (d-value) was 13.89 % and ranged from 3.33 to 33.61 %. But the west part precipitation showed that $\delta^{18}O$(%) value was ranged from -3.65 to -13.11 and δ D(%) value was ranged from -14.33 to -94.67. These istiope content difference was also indicated ocean and continental air effect.

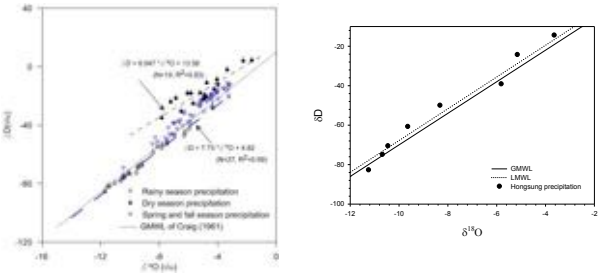

Fig. 1. Isotopic variation in precipitation with different region in Korea.