Meridional distribution of isotopic composition of precipitation in the Nobi Plain, central Japan

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The weekly isotopic compositions of precipitation in the Nobi Plain, central Japan was investigated in the period from August 2016 to December 2016. Rain gauges were installed at six observation sites along the 42km survey line from near the Ise Bay to inland of the Nobi Plain (Gifu city). We made simple rain gauges from 18 cm diameter funnels and wasted 2-litter plastic beverage bottles. The precision of the rain gauge is ±0.5%, that is good enough for practical use. The weekly precipitation and their hydrogen and oxygen isotope ratios obtained show clear seasonal variations from summer to winter. The north to south distribution of precipitation and their isotope ratios varied weekly and seasonally, then we classified them from their characteristics and the weather conditions. We also observed isotope ratios of typhoon precipitation collected half-hourly during the passage of typhoon Malakas on 20th September 2016, and their significant changes were discussed in relation to cyclone systems.

Keywords: precipitation, oxygen isotope ratio, hydrogen isotope ratio, meridional distribution, Nobi Plain

