

## Isotopic signals of rainfall in Indonesia related to the Madden-Julian Oscillation

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Daily rainfall and stable isotopes of water (Oxygen-18 and Deuterium) were observed from 2001 to 2003 at 5 stations in Indonesia. Pentad mean rainfall and Oxygen-18 variations from November 2002 and May 2003 were compared with pentad Madden Julian Oscillation (MJO) indices provided from CPC/NOAA. Time series in Oxygen-18 of rainfall were clearly corresponded to the MJO indices at 100&ordm;E at 2 stations in Sumatra Island, but not corresponded to the MJO indices at 120&ordm;E at 3 stations in Bali and Sulawesi Islands. This result shows that the MJO related convection activities can reach to Sumatra Island, but cannot reach to the Bali and Sulawesi Islands. However, rainfall variations at all stations were not corresponded to the MJO indices. These results show only stable isotopes of rainfall can catch the MJO signals in Indonesia. Next, why the isotopic values of rainfall were related to the MJO indices? Oxygen-18 of rainfall at 2 stations in Sumatra Island showed low (high) values when MJO activities were positive (negative). It means that water vapor which has low isotopic ratios by large-scale transportation were more (less) than water vapor which has high isotopic ratios by local circulation during the MJO active (inactive) phase.