

Suwarman, R., K. Ichiyanagi, M. Tanoue, K. Yoshimura, S. Mori, M. D. Yamanaka, F. Syamsudin, and H. A. Belgaman, 2017: El Niño Southern Oscillation signature in atmospheric water isotopes over Maritime Continent during wet season. *J. Meteor. Soc. Japan*, **95**, 49-66.

<https://doi.org/10.2151/jmsj.2017-003>

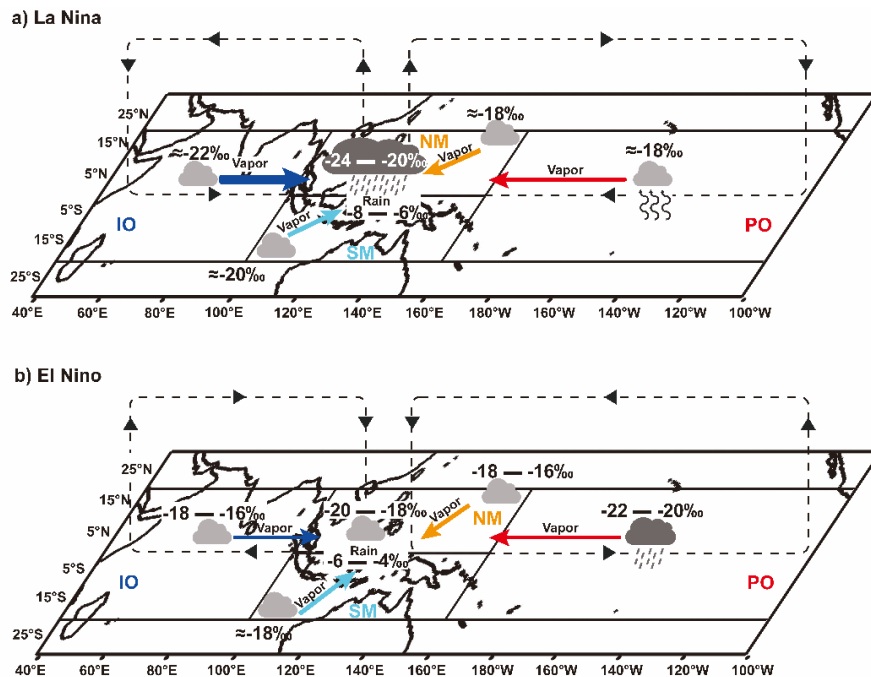


Figure 1. Schematic of the atmospheric circulation controlling the variability of $\delta^{18}\text{O}$ over the Maritime Continent during (a) La Niña and (b) El Niño years, showing differences in the amount and intensity of rainout processes related to anomalies in the Walker Circulation. Widths of the colored arrows indicate the amount of water vapor reaching the Maritime Continent. Large areas of cloud and vapor indicate rainout intensity.

- The study shows the response of stable isotopes in precipitation to ENSO events and the spatial distribution of water sources from a particular region in order to understand how water vapor from a particular region might influence the isotopic variability due to ENSO using a simulated isotopic model (Figure 1).
- In addition, we propose several plausible factors that control the isotopic variation during ENSO. In General, the depletion and enrichment of stable isotopes correspond to the appearance of zones of convergence and divergence over the Maritime Continent during La Niña and El Niño, respectively.
- An asymmetric ENSO feature is found in this study, evidenced by the similar contributions of water source quantity from the northern Maritime Continent and the Pacific Ocean during both ENSO phases.