

Interactive comment on “ENSO – cave dripwater hydrochemical relationship: a 7-year dataset from SE Australia” by C. V. Tadros et al.

Anonymous Referee #2

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The karst hydrological and geochemical processes are strongly affected by ENSO in the SE Australia. This paper links the El Niño and La Niña phases to the hydrochemical variations of cave dripwater, Harrie Wood Caves, SE Australia. Based on the El Niño and La Niña phases, the authors investigate the hydrochemical processes by using a 7-year long rainfall isotope ^{18}O and dripwater Ca, Cl, Mg/Ca, and Sr/Ca dataset from three drip sites, in Harrie Wood Caves. Results show that during the El Niño and dry periods, enhanced Prior Calcite Precipitation (PCP) resulted in higher Mg/Ca and Sr/Ca ratios. While during the La Niña phase where dilution dominated and reduced PCP. The research is interesting and worth to publish in Hydrology and Earth System Science after minor revision.

Comments: 1. You use Yarrangobilly Caves, and Harrie Wood Caves in text. Please clarify the relation between the two caves in text, and illustrate in Fig.1.

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2. There are three dripwater monitoring sites (i.e. HW1, HW2, and HW3), and the distance between the three sites are less than 10m (Fig.1B). The three drip sites belong to discharge flow Type 1, mixed flow/storage connectivity. But the observation data of Ca, Mg/Ca, and Sr/Ca for HW2 are very different from HW1 and HW3. Why?

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C2