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## What drives the isotopic composition of vapor, precipitation and surface snow in a coastal site of East Anrctica: Adelie Land

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Studying the drivers of the water stable isotopic composition at coastal Antarctic sites is useful for the interpretation of coastal ice-core signal or the analysis of recent mass balance evolution. In addition to the classical fingerprint of temperature, the water isotopic composition in water vapor and snow carries a fingerprint of the humidity transport pathway, from evaporation to precipitation. Blowing snow in very windy coastal regions is also expected to carry a particular signature affected by snow-air exchanges as observed for surface snow on the East Antarctic plateau.

Since November 2018, we have been continuously measuring the water stable isotopic composition of vapor at Dumont D'Urville station (Adélie Land) using laser spectrometers in addition to isotopic composition of precipitation, blowing snow and surface snow samples. We present here the full 2019 data series. We focus on the two main weather regimes, in summer and winter, that affect the local hydrological cycle. In summer, temperature and specific humidity signals are characterized by large diurnal cycles due to katabatic winds. Winter variability is largely influenced by large scale synoptic events. We also investigate a few specific cases of precipitation/sublimation and compare two summer periods with opposite sea-ice conditions.