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Interannual crustal deformation driven by hydrological load

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Hydrological circulation between land and sea driven by atmospheric circulation causes gravity change due to mass redistribution. Because land water such as soil moisture and snow ice is less mobility, such gravity changes can be detectable by gravimetric satellite GRACE (Gravity Recovery and Climate Experience). On the other hand, hydrological mass redistribution also causes crustal deformation by surficial load. In this study, we discuss hydrological deformation by comparing GPS displacement and elastic deformation derived from GRACE.

Keywords: crustal deformation, load deformation, GPS, GRACE