

# Effects of climate variability on water level fluctuations and farming practices in andean higland wetlands Efectos de la variabilidad climática sobre las fluctuaciones del nivel de las aguas y actividad ganadera en humedales altoandinos

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During the last decades, climatic variations in the Chilean Higlands (Altiplano) that threaten the sustainability of the local wetlands and, thus, the sustainability of farming practices that depend on them, have been demonstrated. Among the most important wetlands in the region is the area of the Caquena 'bofedal', which thanks to its ecological value and potential yields, is one of the most significant natural meadow and an important source of food and water in the area, playing a key role in the high Andean ecosystem and social system. The present study aims to analyze the existing relationship between the fluctuations of the surface of the Caquena marsh, climate variability and livestock activity in the area between 1990 and 2011 using weather data and satellite imagery analysis for the spring and autumn periods. The lowest and the highest surface covered by wetland vegetation was recorded in years when strong El Niño and strong La Niña phenomena, respectively, took place. However,