The Cryosphere Discuss., 4, C1848–C1849, 2011
www.the-cryosphere-discuss.net/4/C1848/2011/

The Cryosphere Discussions

Interactive comment on "Glacier changes in the Pascua-Lama region, Chilean Andes (29° S): recent mass-balance and 50-year surface-area variations" *by* A. Rabatel et al.

A. Rabatel et al.

rabatel@lgge.obs.ujf-grenoble.fr

Received and published: 26 July 2011

Jorge Carrasco comment:

Please check:

Carrasco, J.F., R. Osorio and G. Casassa, 2008: Secular trend of the equilibrium line altitude in the western side of the southern Andes derived from radiosonde and surface observations, Journal of Glaciology, 54(186), 538-550.

Carrasco, J.F., G. Casassa and J. Quintana, 2005: Changes of the 0°C isotherm in central Chile during the last Quarter of the XXth century. Hydrological Science Journal,

50 (6) 933-948.

Falvey, M. y R. Garreaud, 2009. Regional cooling in a warming world: Recent temperature trends in the southeast Pacific and along the west coast of subtropical South América (1979–2006). Journal Geophysical Research, 114.

Authors reply:

Thank you for mentioning these references. They have not been quoted in the paper as they mainly focussed on the Central Andes of Chile, south from 30°S, with meteorological data from low-elevation sites. Direct temperature and precipitation measurements are very scarce in the region, and so tendency are hard to quantify at both local and regional scales. The main message we want to address about the glacier retreat over the last decades in the Pascua-Lama region is that considering current mass balance processes, this retreat appears to be primarily driven by precipitation changes rather than temperature changes.

Interactive comment on The Cryosphere Discuss., 4, 2307, 2010.