Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

ACC021-10 Room: Exibition hall 7 subroom 3 Time: May 27 14:30-14:45

Multi-decadal ice velocity and elevation changes of a mon-soonal maritime glacier, Hailuogou Glacier, China

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DEMs of the ablation area of Hailuogou Glacier produced from ASTER data obtained in 2009, DGPS data surveyed in 2008 and aerial photographs acquired in 1966 and 1989, were diffe-renced to estimate long-term and short-term glacier surface elevation change (dh/dt). The mean dh/dt of the ablation area over 43 years (1966-2009) is -1.1 m/a. After 1989 the thinning has significantly accelerated. Ice velocities measured by DGPS at 28 fixed stakes implanted in the ablation area increase with distance from the glacier terminus, ranging from 41.0 m/a approaching the glacier terminus to a maximum of 205.0 m/a at the base of an icefall. Our results reveal that the overall average ice velocity in the ablation area has under-gone significant temporal variability over the past several decades. Changes in glacier sur-face elevation in the ablation area result from the combined effects of climate change and glacier dynamics, which are driven by different factors for different regions and periods.

Keywords: Hailuogou Glacier, Elevation Change, Ice velocity, ASTER