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The Cryosphere Discussions

Interactive comment on "Stand-alone single-frequency GPS ice velocity observations on Nordenskiöldbreen, Svalbard" *by* M. A. G. den Ouden et al.

M. Pelto

mauri.pelto@nichols.edu

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den Ouden et al., (2010) examine the utility of a simple stand alone single frequency GPS for observing glacier velocity over extended periods. This is cost effective means to obtain velocity data with good temporal resolution at numerous locations on a glacier. The methods and rationale are well explained. Because some of the key issues of utilizing such a system are logistical more attention to this should be given. The goal of the paper is not a detailed explanation of the causes of the temporal and spatial variations of velocity, yet the paper should include a bit more information on this topic.

986-3: Tripod or mass balance stakes are used. At which stations was each employed?

What was the experience in terms of maintenance, redrilling etc. for the two methods?

988-1: The sonic ranger is only mentioned once in the text. What was the sonic ranger mounted on and how high above the ice to start? How reliable was the data? Is this the source of the data referred to for surface height on 994-1?

993-12: What was the ELA in 2006 through 2009? Is there any information on the transient snow line changes and when any of the stations lost the seasonal snow cover. If so this should be included. Is the interesting difference in velocity at NB8 and NB9 from 2007 to 2008 potentially related to the difference in the ELA for the two years. I note that in the WGMS GMBB 10 that 2006 and 2007 have similar ELA that are considerably higher than the ELA.

Interactive comment on The Cryosphere Discuss., 4, 981, 2010.