



The potential of the ArcticDEM satellite-based digital elevation models for mapping glacier change in Iceland

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The ArcticDEM data set of digital elevation models, which upon completion will cover all land area north of 60° north latitude, offers unique opportunities for mapping glacier changes in northerly areas. The DEMs can be used to map glacier changes both in combination with other sources of elevation information and by an inter-comparison of ArcticDEM elevation models from different points in time. Since the entire data set is already in the form of publicly available, processed DEMs, it can be effectively applied to any glacier without the need to analyse the available imagery to determine suitable cloud-free time windows, order the corresponding imagery and process individual image pairs. The data set contains first order geo-referencing information in the form of xyz offsets derived from IceSAT altimetry data. The presentation will describe first results from an analysis of the ArcticDEM for several Icelandic glaciers, geo-referencing, comparison with available high-accuracy ground control points from ice-free areas and an overall quality assessment.