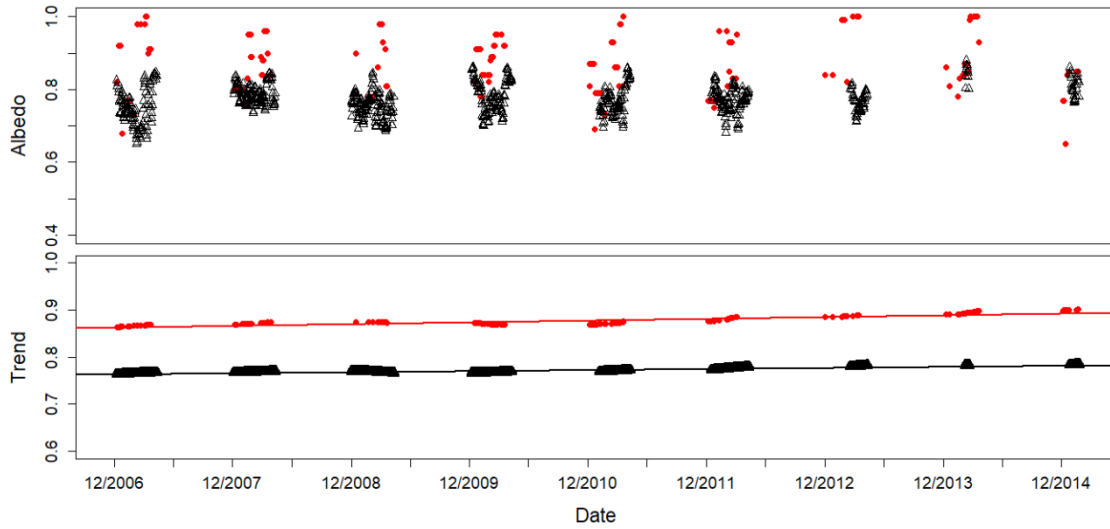**Figure S1:** Left column: original in-situ albedo (blue dots), original MOD10A1 albedo (black dots), in-situ albedo moving average (brown solid line) and filtered MOD10A1 albedo (black solid line) from 1

September to 10 April. Right column: in-situ albedo moving average (brown dots) and filtered MOD10A1 albedo and the corresponding fit to the exponential decay. Season 2006–2007 ((**a**) and (**b**)), season 2009–2010 ((**c**) and (**d**)), season 2010–2011 ((**e**) and (**f**)), season 2014–2015 ((**g**) and (**h**)). The vertical red lines in (**a**), (**c**), (**e**) and (**g**) indicate the start and end dates of the snow melting.

Figure S2: MOD10A1 version 6 and in-situ data trend analysis. Moving average of in-situ albedo (open triangles) and maximum values of MOD10A1 albedo (red dots) from 1 December to 10 April (upper figure) and the calculated trends of in-situ moving average (open triangles) and MOD10A1 maximum albedo (red dots) from 1 December to 10 April (bottom figure). The linear fits of the trend are also shown.