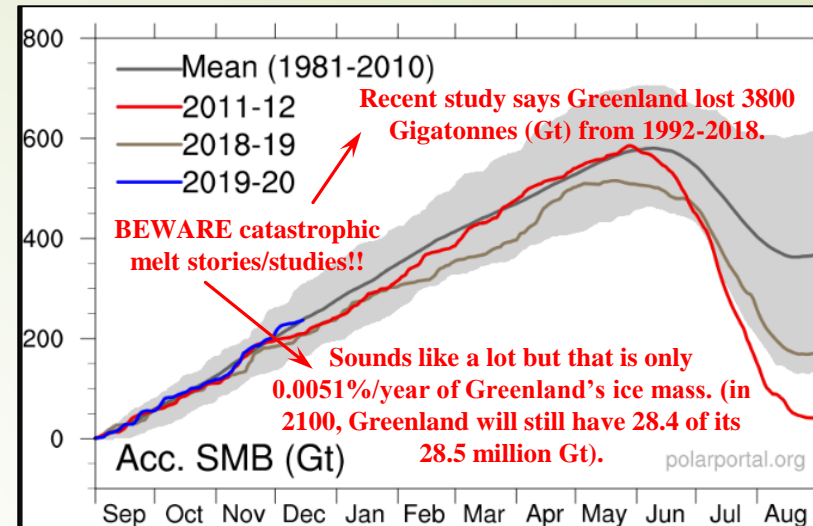


I haven't seen any mentions of these significant 2019 mass adds in the mainstream media. The mass adds are similar in magnitude and more common than the one significant melt in July/August 2019, discussed below.

This 2019 strong period of melt prompted a plethora of news reports that Greenland was melting at alarming rates and sea level rise was imminent and would be devastating, etc., etc. This is not a climate event and it most certainly has very little effect on the cumulative SMB.

<http://polarportal.dk/en/greenland/surface-conditions/>



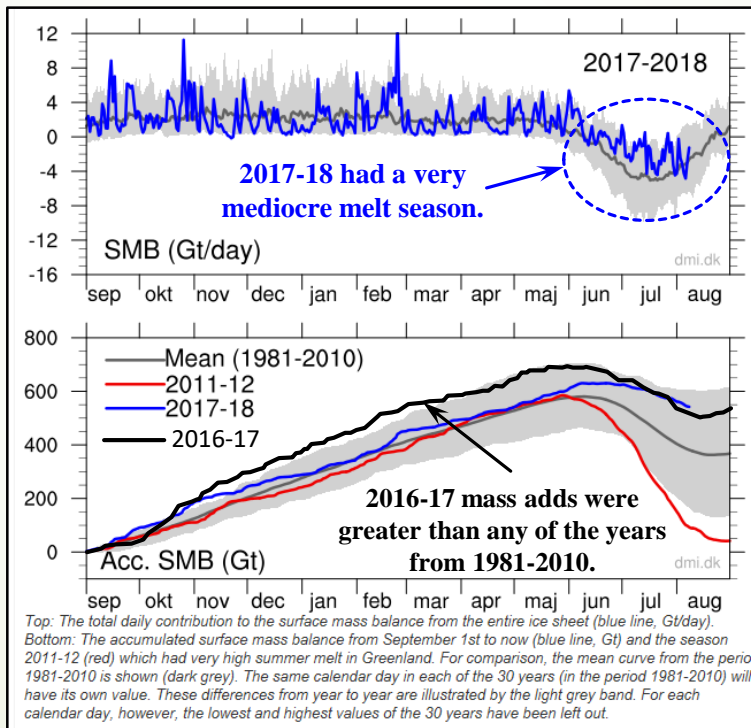
Did you know that an all-time Northern Hemisphere July cold record was measured at the Summit in Greenland on July 4<sup>th</sup>, 2017? This middle of the summer -33 °C record beat the old record by 2.3 °C. Or the preliminary measurement from January 2<sup>nd</sup>, 2020 (66 °C, graph above) that will set a record for the coldest Greenland measurement EVER!

Did you hear about that in the media?

## Greenland SMB

A 2015 NASA study looked at the ice changes in the Antarctic. Based on their analysis, the Antarctic ice sheet gained roughly 112 billion tons of ice per year between 1992 and 2001 and 82 billion tons per year between 2003 and 2008. That's a gain of roughly 1.4 trillion tons of ice over that period (when we were supposedly warming).

More detail? Search "Ronald Davison climate"



Both 2016-17 and 2017-18 had above average SMB gains despite the media narrative that every year is the hottest year EVER!

1. Generally, the Greenland ice sheet begins adding mass (snow) at the end of August each year, continues to do so through June of the following year and then flips into the melt season until the end of August. EVERY YEAR more snow mass falls than the snow and ice mass that is lost through melting. Note: It does not include the mass that is lost when glaciers calve off icebergs (which is happening).

2. The 2011-12 season (the largest melt in the last 4 decades) still had a net SMB gain of 40 Giga tonnes (Gt). The 2018-19 season (a low year) added 175 Gt.

3. The current season (2019-20) is adding mass at the same rate as the 1981-2010 mean (i.e.: nothing out of the ordinary).

4. In a typical year, the accumulated SMB equates to an addition of 365 Gt. Over the 1981-2010 period, that is 10.95 trillion tonnes. I don't have all of the individual yearly data points for 2011-2019 but the additional adds would be roughly another 3 trillion tonnes.

Greenland is not showing any signs of melting away anytime soon!!!

The sun (not CO<sub>2</sub>) is the primary climate driver!