

Figures for “ Response to Referee 2”

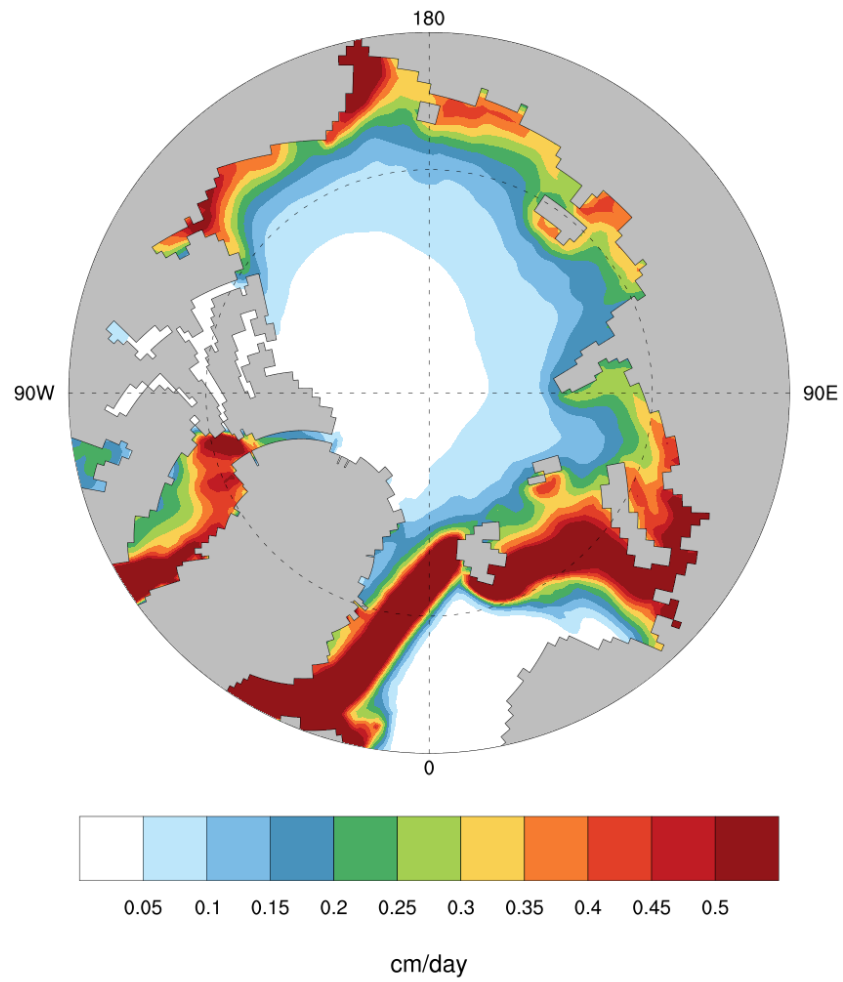


Figure R.1.: Average daily basal melt rate over April, May and June from 1979–2014 in the CESM LE using ensemble member 35.

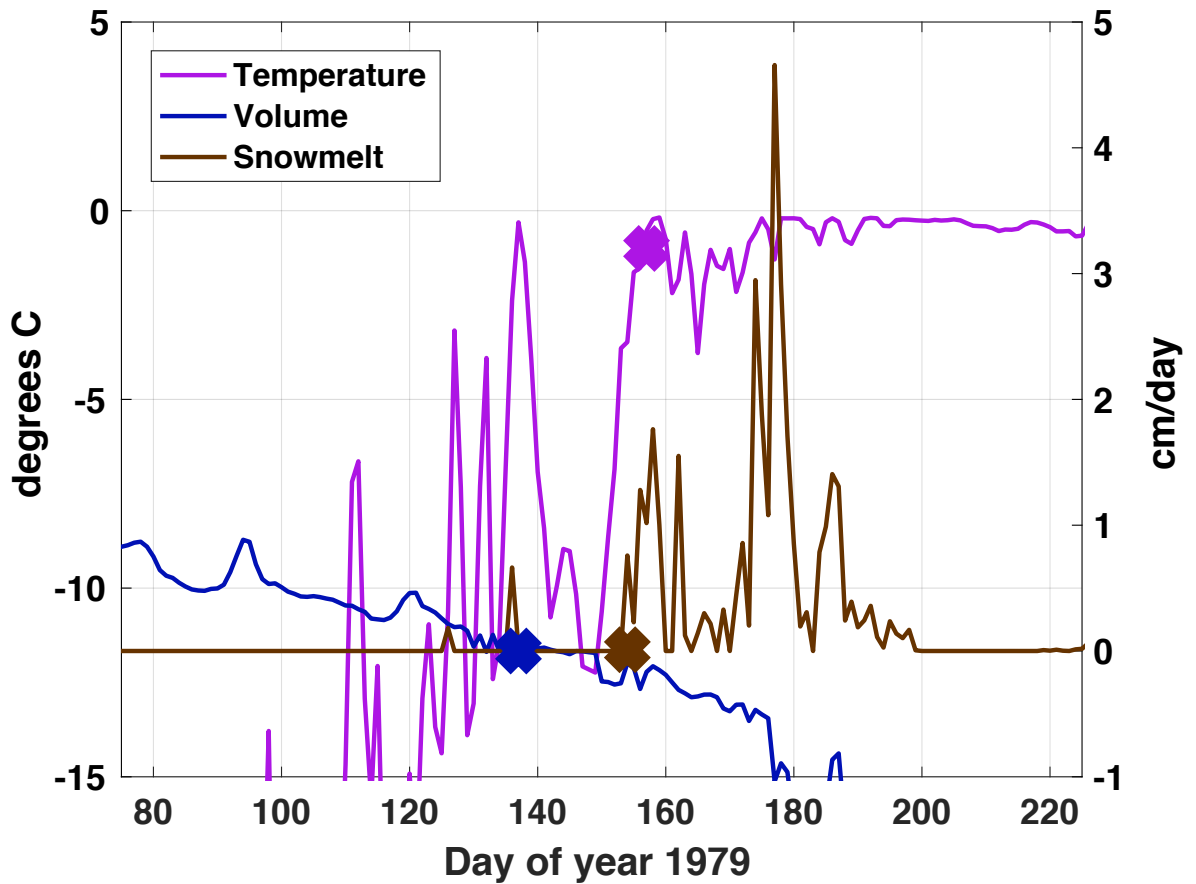


Figure R.2.: Each CESM LE melt onset definition variable over days 75-225 of year 1979 in a grid cell just north of Svalbard using ensemble member 35: surface temperature (purple), thermodynamic ice volume tendency (navy blue) and snowmelt (brown). The X of each color corresponds to the defined melt onset date.

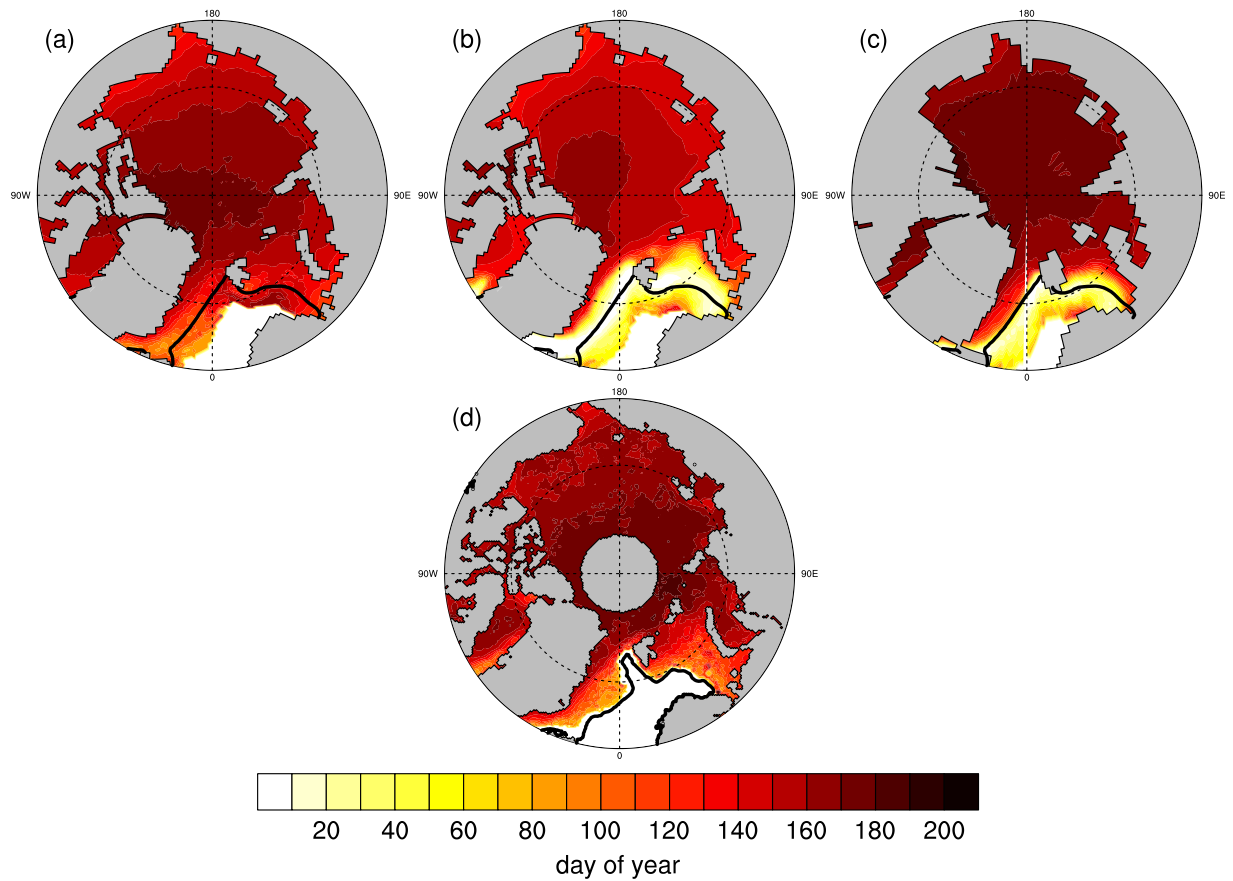


Figure R.3.: Average melt onset dates over 1979–2014 for each CESM LE definition using ensemble member 35: (a) snowmelt definition (b) thermodynamic ice volume tendency definition (c) surface temperature definition and (d) PMW satellite observations. The black line denotes the mean March ice edge (15% ice concentration) from 1979–2014 using (a–c) the CESM LE and (d) NSIDC Bootstrap sea ice concentrations (Comiso, 2017). Melt onset dates south of the mean ice edge are less reliable than those north of the edge.