The Cryosphere Discussions

The Cryosphere Discuss., referee comment RC2
https://doi.org/10.5194/tc-2022-198-RC2, 2022

Comment on tc-2022-198

Anonymous Referee #2

Referee comment on "Seasonal and interannual variability of the landfast ice mass balance between 2009 and 2018 in Prydz Bay, East Antarctica" by Na Li et al., The Cryosphere Discuss., https://doi.org/10.5194/tc-2022-198-RC2, 2022

Landfast ice (LFI) is one of the predominant features around the Antarctic coastal zone, representing 4-12.8% of the Antarctic sea ice extent while around 28% of the total sea ice volume in the Antarctica. LFI is a sensitive indicator to climate change. Its local and region variations are affected by the atmospheric and oceanic conditions, as well as the local conditions. Prydz Bay in East Antarctica is the third largest bay around the Antarctic continent, with the Chinese Zhongshan Station and the Australian Davis Station in this bay. With the IMB data near the two stations between 2009 and 2018, Li et al. studied the "Seasonal and interannual variations in the landfast ice mass balance between 2009 and 2018 in Prydz Bay, East Antarctica". They presented the LFI differences between the two stations, identified the differences are due to local differences in topography and katabatic wind regime, and investigated the main factors regulating the LFI mass balance. The manuscript is well structured, and generally well written. More detail comments are given below. After the minor revision, I recommend to publish this manuscript.

Please also note the supplement to this comment:
https://tc.copernicus.org/preprints/tc-2022-198/tc-2022-198-RC2-supplement.pdf