

## **Response to Anonymous Referee #1**

**We would like to thank the reviewer for their effort. Responses to the reviewer's comments are identified below in BOLD and reference changes we have made to an updated version of the manuscript.**

This is a very detailed description of clouds over the Ross Sea and Ross Ice Shelf based on analysis of a combined CloudSat and CALIPSO data set as a function of synoptic conditions and seasonality. The work is competently done. The results are of climatological interest to those specialists dealing with the atmospheric processes in this region.

Readability will be greatly enhanced by adding subsections to Section 3. This will help to keep one's attention focused on the detailed analyses being presented.

**We believe that this is a good suggestion to help break up the text, we have added the following section headings in an updated manuscript**

- 3.1 Discontinuity in 2B-GEOPROF-LIDAR R04 Product**
- 3.2 Cloud Occurrence and Phase by Season**
- 3.3 Cloud Occurrence and Phase by Synoptic Regime**
- 3.4 Multilayer Cloud by Season and Regime**
- 3.5 Cloud Type by Season and Regime**
- 3.6 Cloud Height and Thickness**

I would add the specific labels to Figure 2: 2BGL4, 2BGL5, and and 2BCL4.

**We believe the reviewer is asking us to change the labels in the key of the Figure 2 from 2B-GEOPRFO\_LIDAR P2\_R04 to 2BGL04 etc. We believe that this improves clarity and is thus a change we have made in a revised manuscript. For consistency we have also made this change in Figure 3.**