The authors used ultra-high resolution for vegetation classification and change detection in alpine treeline ecotones, which holds certain scientific value, particularly by focusing on the identification of the krummholz category, a relatively under-researched area. The methods are reasonable and have practical application value in treeline studies. Overall, in the previous round of major revisions, the authors effectively addressed the reviewers' comments with high quality. I recommend accepting the paper after minor revisions.

Specifically, I have the following comments and suggestions:

The authors should address the generalizability of their methodology. This study was conducted in a not very large area, and it is unclear whether the classification process and input feature combination can be applied to larger or other regions. At a larger scale or for remote sensing of alpine treelines in other areas, some concerns may arise, such as whether cloud-free, ultra-high-resolution data can be obtained for most remote mountainous areas. Additionally, the selection of time periods may vary depending on the dominant species in the ecotone. This study area dominated by *Juniperus* and *Abies* species, but for widely distributed treeline species like *Larix* and *Betula*, the rationale for using autumn data may be questioned. While the authors may not need to add new validation process in this paper, it is recommended to briefly address these points in the discussion.

What is the specific purpose of placing the research area indicated by the red marker in the lower-left corner of Figure 1? Why not zoom in on the central part of the map? Alternatively, the label "*Mt. Xue main peak*" could be reduced in size to minimize unnecessary obstruction.

In L225, the statement "*All classes achieved F1-scores above 0.6*" seems somewhat redundant, as a F1-score of 0.6 is not a particularly strong benchmark. Moreover, based on Figure 4, it is clear that most F1-scores are above 0.7, with only one around 0.6. It is recommended to remove this sentence or replace it with the overall average F1-score.

L251, write out the full name of *ATE* as "*alpine treeline ecotone*." "*ATE*" itself is not a widely used abbreviation.

L269-271, The ecological significance reflected in the results can be moved to the discussion section, with relevant citations added to confirm the value of this minor classification accuracy improvement for ecological applications.

The readability of Figure 5 is poor, and the key points are not clear. It is recommended to enlarge the bar chart and highlight the values and ranking of the factors indicating their relative importance. The curve for cumulative model interpretability is not a highlight and does not need to be emphasized. It would be sufficient to label the factors corresponding to the 95% threshold only.

L291, “*expanded by 0.105 km² and was reduced by 0.004 km²*”: Using km² as

the unit makes the values appear insignificant. If the authors intend to convey a significant trend of forest expansion, it is recommended to use hectares instead. Moreover, the unit in Table 8 is also hectares, so it is suggested to standardize the area unit throughout the paper (including the corresponding expressions in the abstract and the other sections).

In Figures 7 & 8, the "*field survey*" icon color is not very prominent. Recommended to change the color or add a black border to make it stand out more. Additionally, in Figure 8, it would be better to zoom in, as the pink triangle is hard to find now.

L364, similarly, provide the full name of “*ATE*” here.