

Dear Editor,

Thanks for all comments.

We have modified figures to make sure readers with color vision deficiencies to correctly interpret them. They are figure 1, figure 7, figure 9b, figure 12, figure 13 and figure 14.

Two papers introducing National Tibetan plateau data center were cited.

Comments to the author:

1. Since you have put the data at the National Tibetan Plateau/Third Pole Environment Data Center, you are welcome to cite the relevant introduction papers into the articles as: <https://doi.org/10.1175/BAMS-D-21-0004.1> and <https://doi.org/10.1175/BAMS-D-19-0280.1>

Re: We cited these two papers:

Li, X., Che, T., Li, X. W., Wang, L., Duan, A. M., Shangguan, D. H., Pan, X. D., Fang, M. and Bao, Q.: CASEarth Poles Big Data for the Three Poles, *B. Am. Meteorol. Soc.*, 101(9): E1475-E1491, <https://doi.org/10.1175/Bams-D-19-0280.1>, 2020.

Pan, X. D., Guo, X. J., Li, X., Niu, X. L., Yang, X. J., Feng, M., Che, T., Jin, R., Ran, Y. H., Guo, J. W., Hu, X. L. and Wu, A. D.: National Tibetan Plateau Data Center Promoting Earth System Science on the Third Pole, *B. Am. Meteorol. Soc.*, 102(11), E2062-E78, <https://doi.org/Bams-D-21-0004.1>, 2021.

L81-83: Section 3 introduces the consolidated data that was released at the National Tibetan Plateau Data Center, China, which provides data support for international science programs (Li et al., 2021; Pan et al., 2021).

2. Please ensure that the colour schemes used in your maps and charts allow readers with colour vision deficiencies to correctly interpret your findings. Please check your figures using the Coblis – Color Blindness Simulator (<https://www.color-blindness.com/coblis-color-blindness-simulator/>) and revise the colour schemes accordingly.

Re: We put all images into the color blindness simulator to check the color scheme. To make sure readers with color vision deficiencies to correctly interpret the findings, we made the following revision:

Figure 1: in the original figure, we used different color to label different observation field. In this revised version, we used letter to label them instead of color. And corresponding texts were revised.

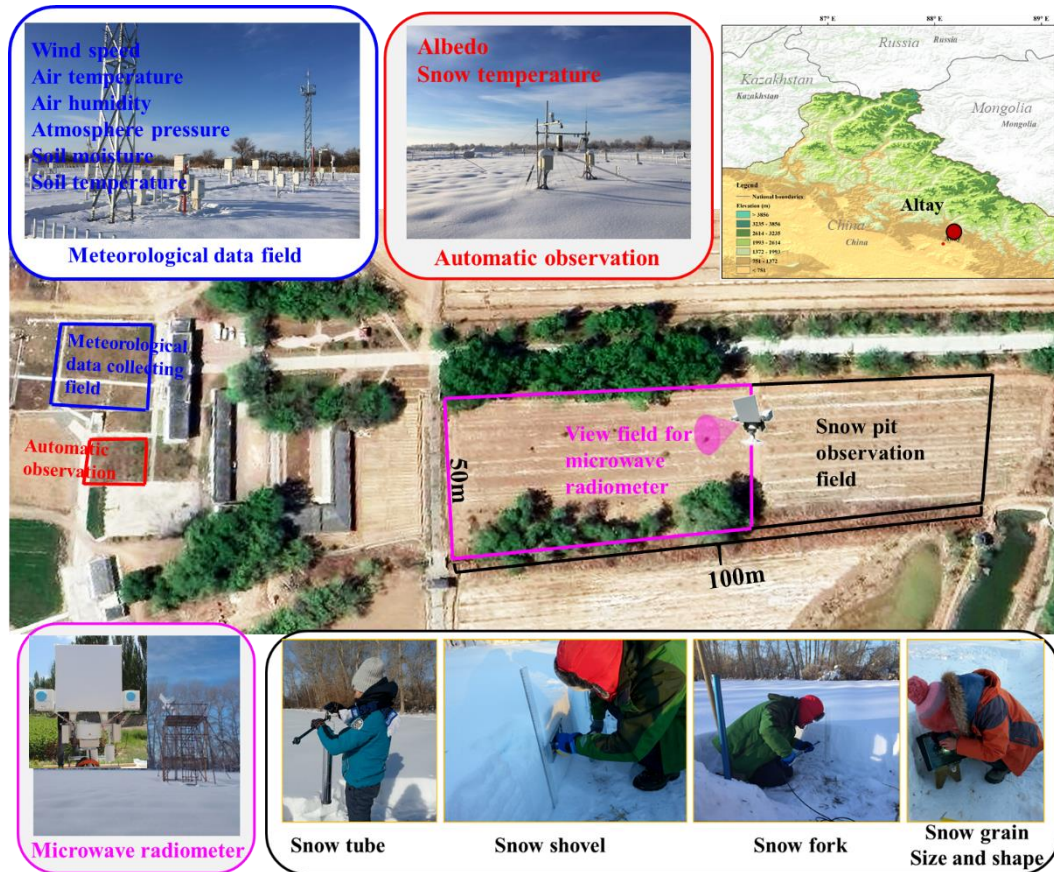


Figure 1. Location of the Altay National Reference Meteorological station (ANRMS) in Asia, along with the four test sites in the ANRMS. The black rectangle field (approximately 40 m × 50 m) was for snow layering, layer thickness, snow density, snow grain size and shape of each layer. The pink rectangle (approximately 60 m × 50 m) was for microwave radiometers observations. The blue rectangle field was for meteorological and soil data collection operated by the ANRMS. The red rectangle was for the automatically observation of the snow temperature, and 4-component radiation, designed by Northwest Institute of Eco-Environment and Resources, Chinese Academy of Science (NIEER).

Was revised to

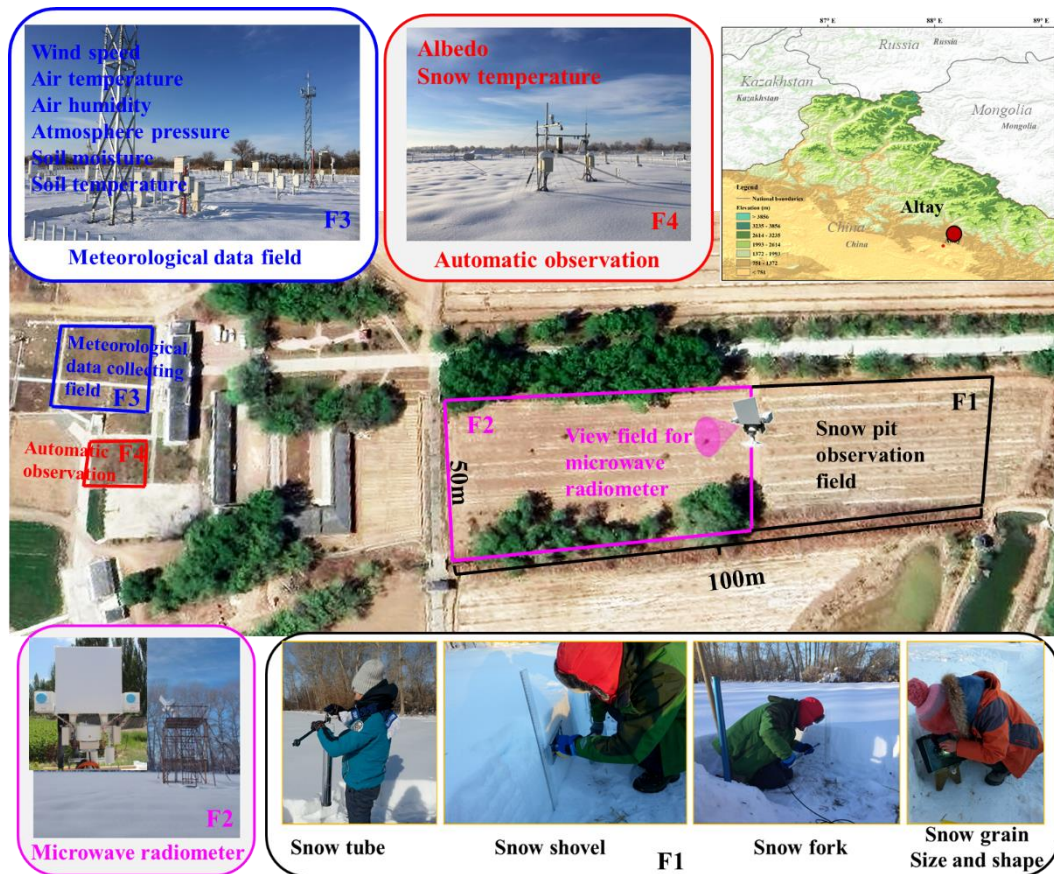
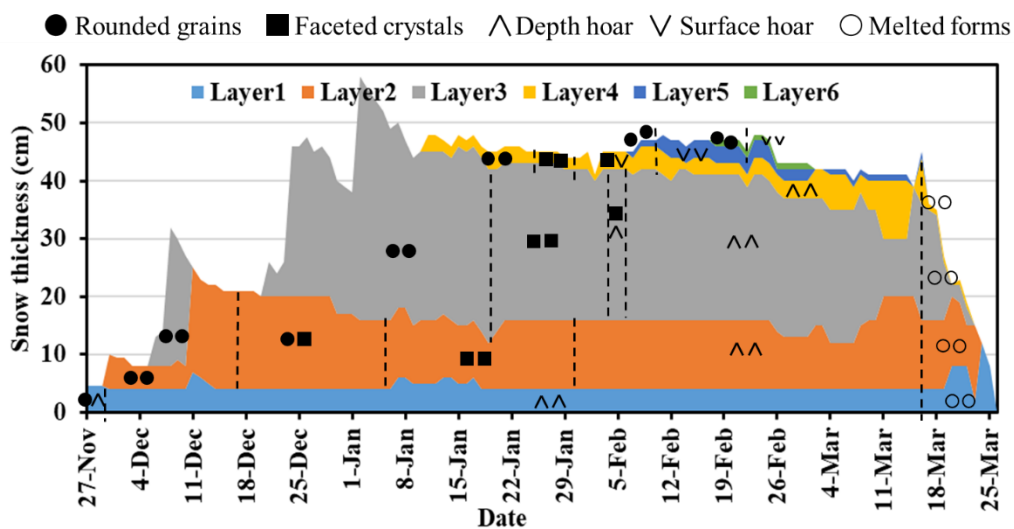


Figure 1. Location of the Altay National Reference Meteorological station (ANRMS) in Asia, along with the four test sites in the ANRMS. F1 (approximately 40 m × 50 m) was for snow layering, layer thickness, snow density, snow grain size and shape of each layer. F2 (approximately 60 m × 50 m) was for microwave radiometers observations. F3 was for meteorological and soil data collection operated by the ANRMS. F4 was for the automatically observation of the snow temperature, and 4-component radiation, designed by Northwest Institute of Eco-Environment and Resources, Chinese Academy of Science (NIEER).

Figure 7:



was revised to

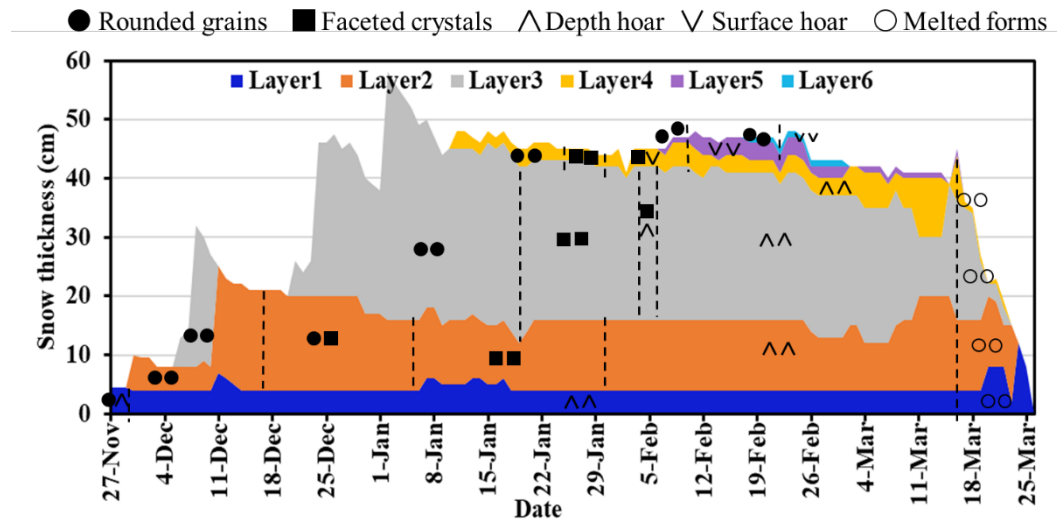
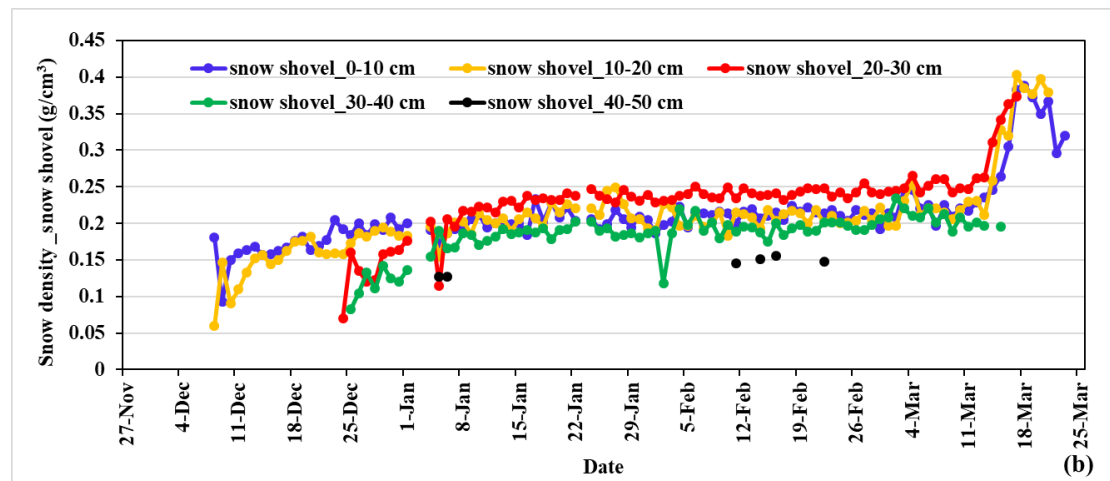


Figure 9b:



was revised to

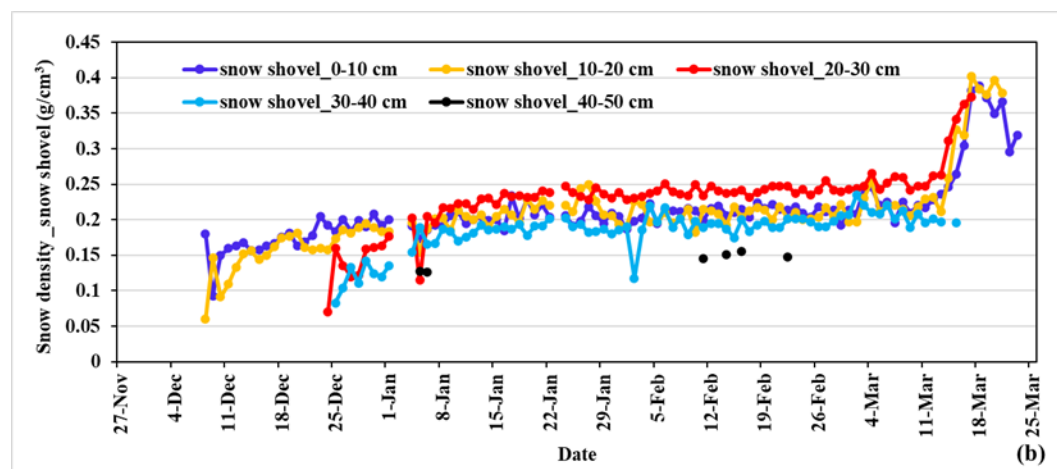
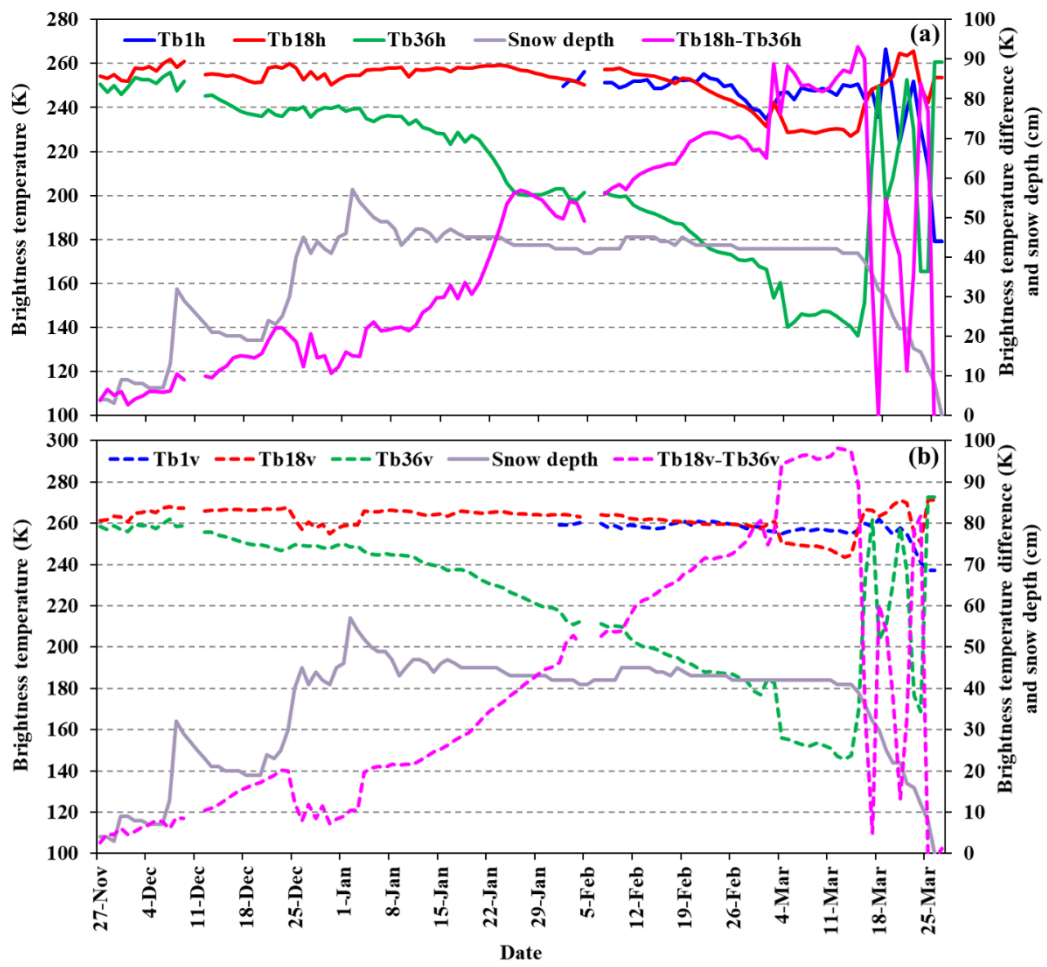


Figure 12:



was revised to

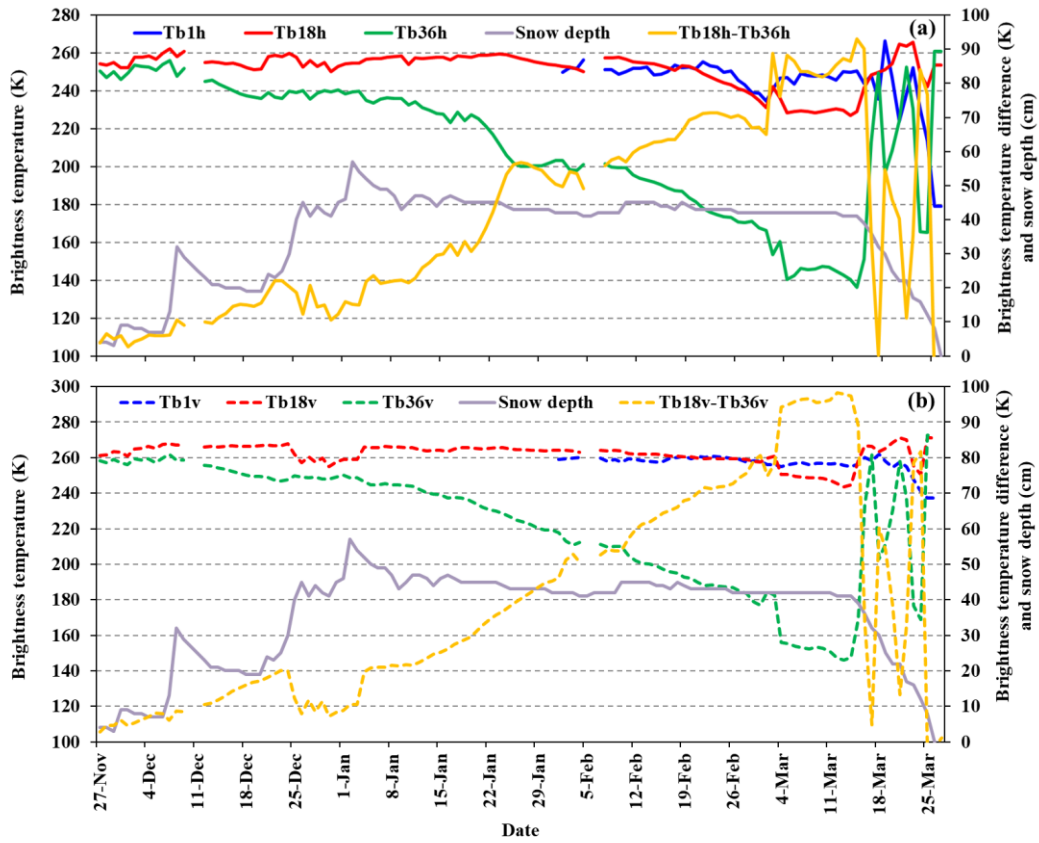
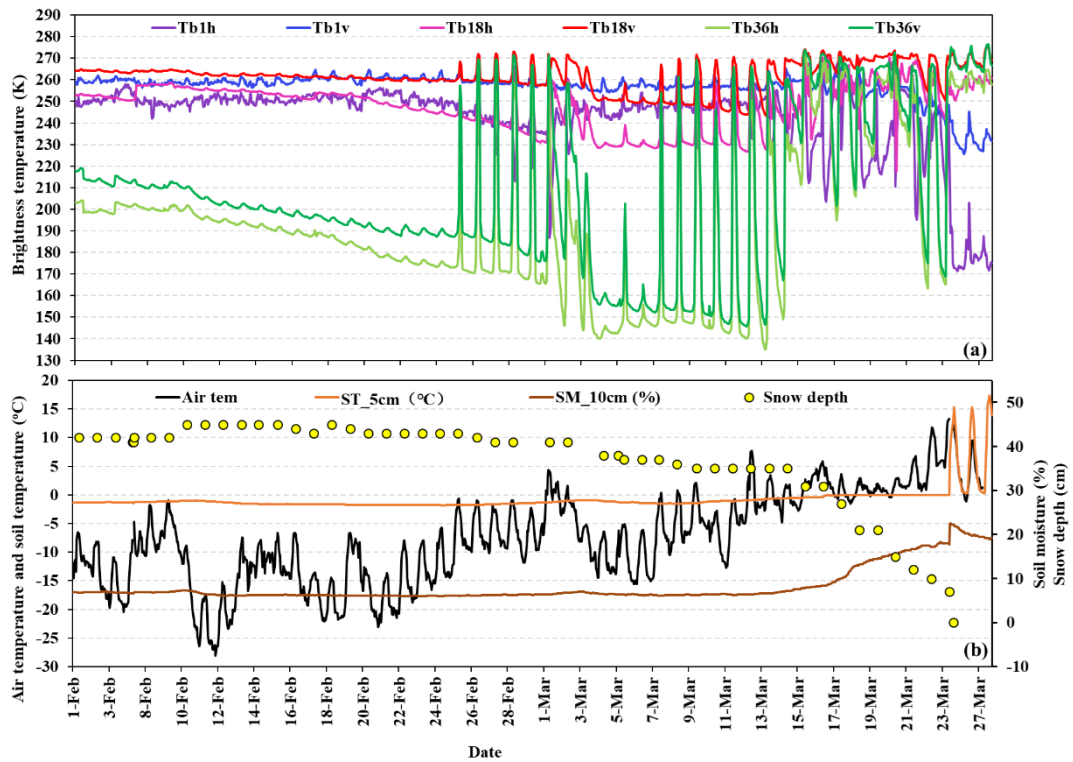


Figure 13:



was revised to

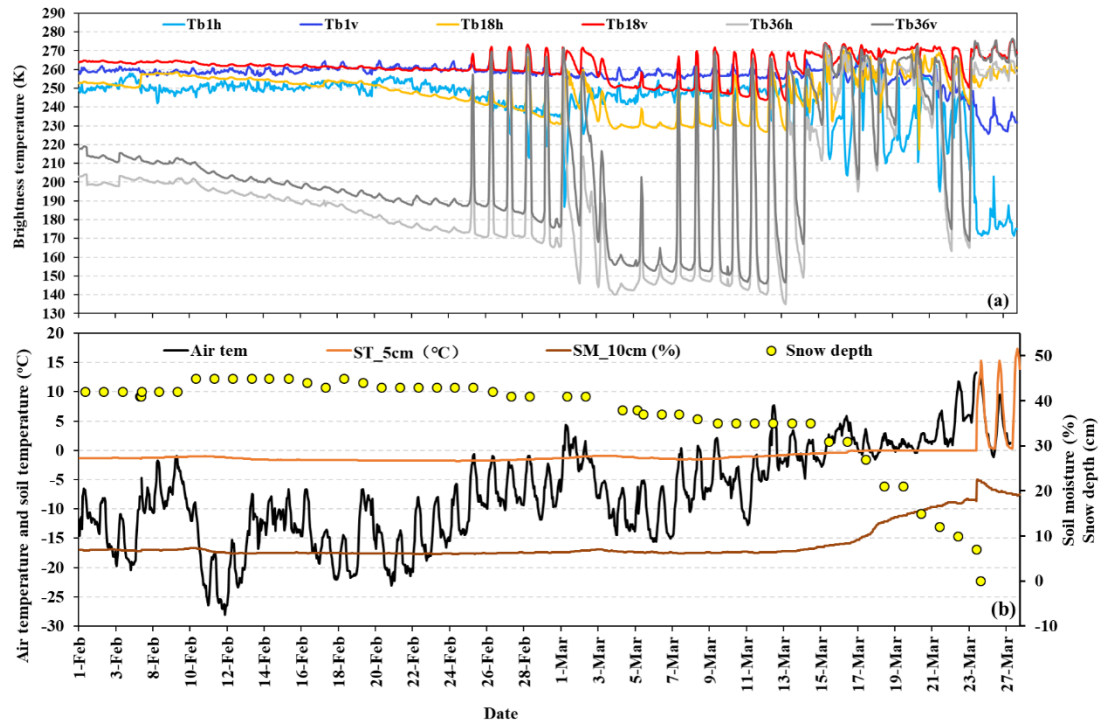
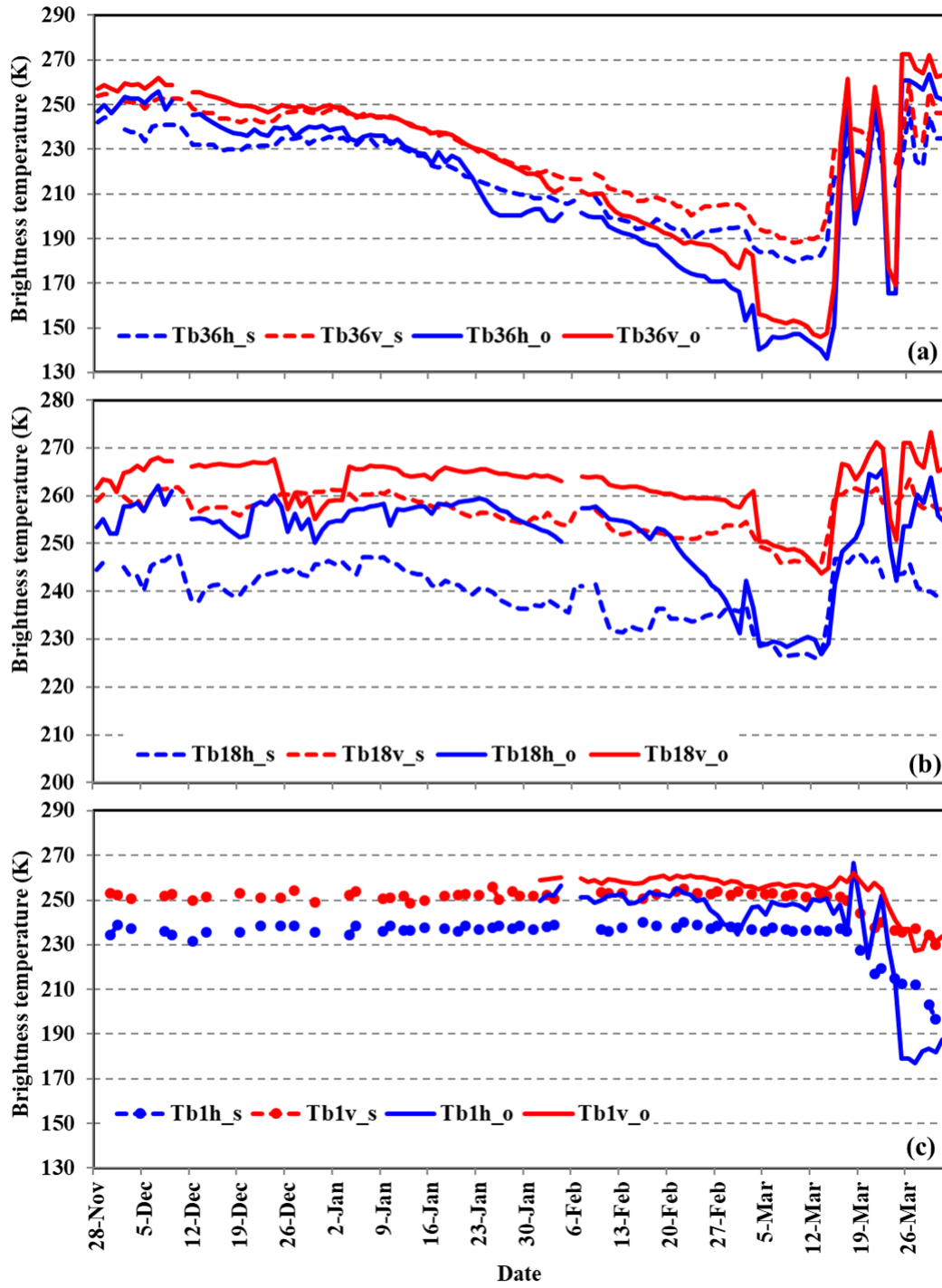


Figure 14:



was revised to

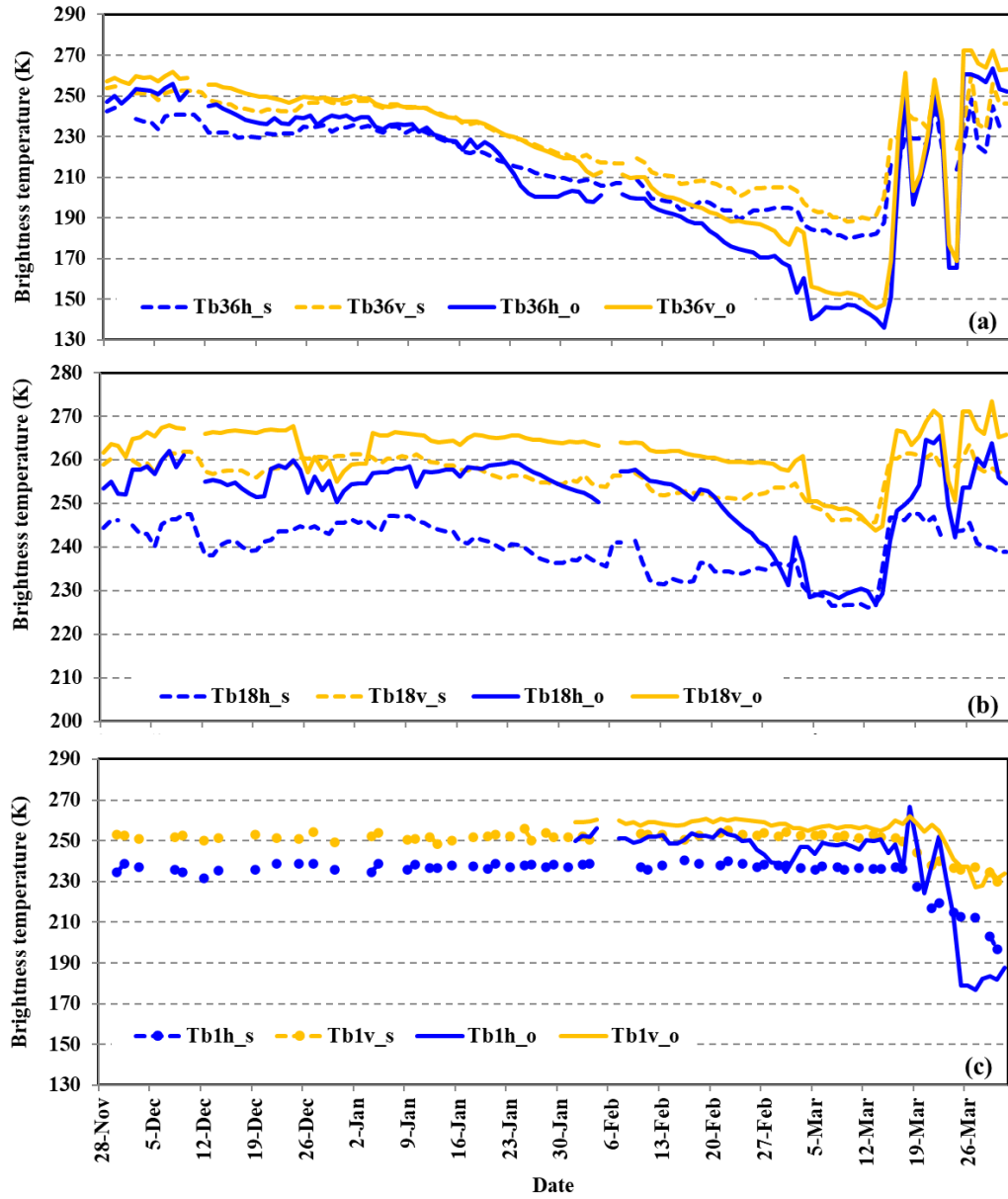
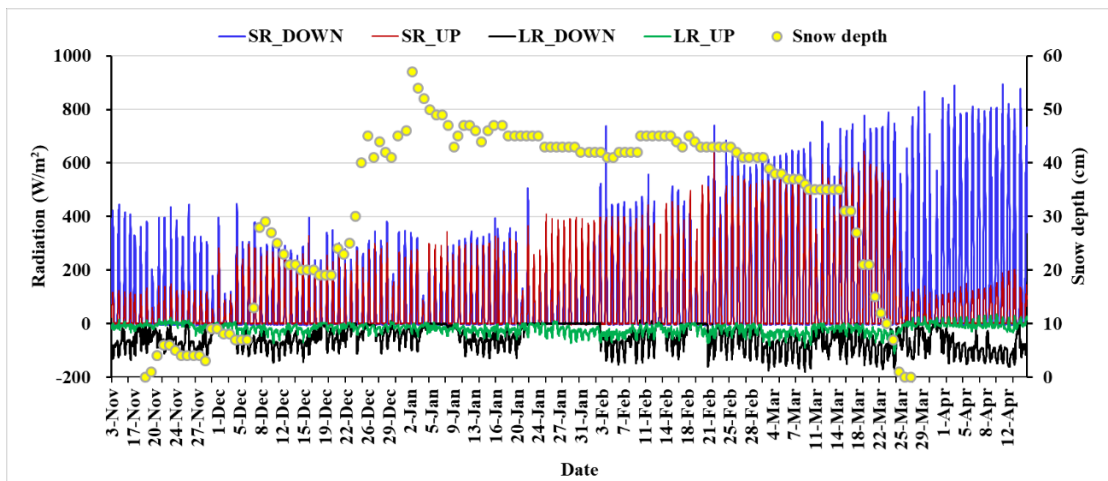


Figure 15:



was revised to

