

Review of
Bannerclouds Observed at Mount Zugspitz
by Wirth, Kristen, Leschner, Reuder and Schween
as submitted to Atmospheric Chemistry and Physics

This paper provides observations of banner clouds that form near the summit of the Zugspitze. Time lapse movies provide statistical information about the formation of these clouds and their characteristics, while a short field study provides further detail on two banner cloud episodes.

General comments

This is a very well conceived and written paper that adds important new information on this interesting mountain meteorology phenomenon. The paper is well-organized, easy to follow, with good figures and tables, and will make a nice contribution to the mountain meteorology literature. I have no 'specific comments', but can recommend some minor 'technical corrections' that the authors may accept or reject.

Technical corrections:

1. Title: I think it is more common for bannercloud to be two words (banner cloud), as used elsewhere in the text.
2. 29410, l2. Change 'carried home' to 'collected'.
3. 29410, l6. Change 'over' to 'of'.
4. 29410, l7. Change 'mode' to 'modes'.
5. 29410, l13. Change 'over' to 'of'.
6. 29410, l16. Change 'in front of' to 'on the lee side of'.
7. 29411, l4. Change 'where' to 'were'.
8. 29411, l19. Change '3.7 m and 9 m above mast foot' to '3.7 and 9 m above the foot of the mast...'
9. 29412, l9. Change 'has to be' to 'was'.
10. 29412, l19. Change 'dismounted' to 'removed'.
11. 29412, l27. Change 'at the bottom of the valley' to 'on the valley floor'.
12. 29413, l2. Change 'a' to 'at'.
13. 29413, l5. Change '550 m and 1280 m' to '550 and 1280 m'.
14. 29413, l7. Change 'started' to 'launched'.
14. 29413, l9. Change 'can be found in' to 'are described by'.
15. 29413, l12. Change 'in' to 'by'. I know this is just a personal preference, but I think an author should attribute ideas, etc. to people rather than to papers.
16. 29414, l18. Change 'number of available observations slightly too limited in order to' to 'number of available observations was slightly too limited to'.
17. 29414, l20. Change 'were observed to occur' to 'occurred'.
18. 29415, l12. Change 'minimum few' to 'minimum a few'.
19. 29416, l1. Change 'ms' to 'm s'.

Table 1 caption. Change 'over' to 'of'. Also, 'daily operation time' could be changed to 'duration'.

General comment on figures: The labeling of the axes is rather non-standard, but still OK. In place of 'z in km (above MSL)' it would be more standard to say 'z (m MSL)'. In place of 'wind velocity in m/s' use 'wind velocity (m/s)', etc.

Figure 2. Latitude and longitude in this figure have different size units (i.e., one minute of longitude is a different length on the x-axis than on the y-axis). This was done, no doubt, to keep the map from being distorted at this latitude by the convergence of the meridians with latitude. An alternative would be to plot the map in UTM coordinates so that the x-axis and y-axis scales could be labeled in 100s of meters. It's probably OK, as is. Just a suggestion.

Figure 3 caption, 3rd line. Change 'towards' to 'toward'.

Figure 3 caption, last line. Change to 'at two heights, namely 3.7 and 9 m above ground'.

Figure 9 caption. Remove the word 'in' when indicating measurement units. Note that Figure 9 is too small for a proper review (Figs 10-12 are near this limit, as well). Hopefully these figures will be larger in the journal.

Figure 10 caption. It would be better to attach times rather than sounding numbers to the line types in the legend. As it is, the reader has to access the caption to translate the number into a time.

There is a minor inconsistency in that Figure 12 has a date line above (c) that is not present in Figure 10.

Note: I really liked the approach used in Figs. 6 and 8 where the hypothetical distribution was presented as a light gray shading behind the actual distribution.