

General comments:

This is a useful research article within the scope of the journal. The potential for using drones to measure the characteristics of temperature inversion in challenging conditions has been demonstrated, and the critical points of this task have been discussed in detail. A very good review of the references is given.

However, the wrong choice of drone and temperature measurement system limited the quality of this research. Also, the altitude of all flights was below 60 meters, and some even less than 30 meters, which is a very limited altitude range for drone measurements.

Specific comments:

Line 13: Why did you limit the flight altitude to less than 60 meters? You had the ability to measure a much wider range of altitudes above ground level.

Line 185: Why did you choose a commercial drone over an open-source solution? Such closed product does not allow adjustments of the drone for this purpose. You could solve the barometer problems by using a laser altimeter, which is very easy to implement in the case of an open-source platform. You could also try different magnetic field sensors and GNSS receivers with interchangeable antennas, etc. Bad drone selection has made solving the problems arising from challenging atmospheric conditions impossible.

Line 216: The declared accuracy of the temperature measurement system is poor for this purpose. You did not calibrate the temperature measurement system before the measurement campaign, but in the last phase of the research you did the validation and stated that the temperature measurement system has shortcomings.

Line 217: placing the sensor in a protective PVC tube has an effect on the response time of the sensor. You should have measured the sensor response time, at least in the laboratory.

Line 367: You state the response time of the sensor from the manufacturer's specification, and you said earlier that you protected the sensor with a PVC tube. Based on Figure 5 showing the thick hysteresis in the temperature graphs, I suspect that the actual response time of your sensor is much longer than the value from the specifications.

Line 410: You had to do laboratory tests and calibration of the temperature measurement system before the field measurement campaign, not at this stage of the research.

Line 423: You (correctly) state here that a closed commercial drone, a "black box", prevents you to solve technical problems.

In Chapter 3.2.5, the authors realize that poor equipment selection has limited their research.

Nevertheless, despite these shortcomings, this paper contains useful information and results and complements previous research of the phenomenon of temperature inversion using drones.