



SDI Review Form 1.6

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_40647
Title of the Manuscript:	Comparison between meteorological data from conventional and automatic weather stations in the state of Espírito Santo, Brazil
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Line 1–6 (the title) could be better as 'A Comparative Study between Meteorological Data from Conventional and Automatic Weather Stations in Espírito Santo, Brazil' The Abstract could be better recast as: Meteorological variables are mainly monitored by conventional and automatic weather stations. Presently, conventional weather stations are now being replaced by automatic weather stations. In order for this permanent replacement to take place, it is necessary that the exposure conditions of the sensors and the methodologies used to obtain meteorological data remain standardized. The aim of this study is to carry out a comparative study between meteorological data from the conventional and automatic weather stations in two cities, São Mateus and Vitória, located in the State of Espírito Santo, Brazil. Daily meteorological data series of maximum and minimum air temperatures, average relative humidity, wind speed, rainfall and atmospheric pressure were used simultaneously from 2007 to 2016. The data from the respective stations were compared using frequency histogram, linear regression analysis, coefficient of determination, Willmott index of agreement, bias (systematic error), root mean square error, confidence coefficient and Pearson correlation coefficient. From the results, it was observed that the best data adjustments were found for maximum and minimum air temperature and atmospheric pressure, as for the other meteorological variables, there was a need for adjustment coefficients so as to ensure that the current historical series continue to exist in order to consequently replace conventional weather stations with automatic ones. Line 17-20 could be better recast as: It is notable that during the analysis of the history of extreme climatic events, there is mostly some decay, especially in the last few decades [1]; this is mainly due to global warming, which has affected several aspects such as the agriculture, increase migration to urban areas and have caused enormous economic losses in Brazil and some other part of the world. Line 38-42 could be better recast as: According to Ribeiro et al. [8], replacing a conventional weather station with an automatic one, involves a complex procedure. In order to replace a conventional weather station with an automatic one, there is a need for comparative studies between these two types of weather stations, so as to guarantee the homogeneity of the data and reliably replace the conventional stations by the automatic ones, since the automatic stations are subject to greater deterioration caused by physical damage [9, 5]. Line 43-51 could be better recast as: Researchers like Pereira <i>et al.</i> [4], Oliveira <i>et al.</i> [10], Ribeiro <i>et al.</i> [8] and many others have found a good agreement between meteorological variables during the comparison of data obtained by these two stations. However, as reported by Strassburger <i>et al.</i> [5], it is necessary that the adjustment coefficients are calculated independently in each region in which they are installed. In Espírito Santo research of this nature is still developing, and this justifies this study. Therefore, it is imperative to carry out this study, in order to ascertain the relationship between the meteorological data from conventional and automatic weather stations in the cities, São Mateus and Vitória, located in the state of Espírito Santo, Brazil so as to observe if there are errors that could compromise the permanent replacement of automatic stations by conventional ones.	Dear evaluator, as sujerido, all your recommendations were made in the text.



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	Line 54 (Section 2), should be written as just '<i>Materials and Methods</i>' Line 103 (Table 4): Equations for the statistical analysis should not be on table but rather numbered, say; $r = \dots$ (1) Where r is the Pearson Correlation Coefficient, and define other variables used accordingly Line 284: the word 'bad' should be recast as 'was not good enough' Line 289-291 could be better recast as: The data analysis indicated the need for adjustment coefficients to ensure that the current historical series continues to exist in order to consequently replace conventional weather stations with automatic ones within the studied area and beyond.	
Minor REVISION comments	The word '<i>elements</i>' as commonly used throughout the article' could be better as '<i>variables</i>' The figures in this research article are not too bright Please, there should be acknowledgement section, especially to acknowledge where the data came fro	Dear evaluator, as sugerido, all your recommendations were made in the text.
Optional/General comments	The manuscript analyzed meteorological variables from the two major kinds of weather stations. It is an interesting study with valuable long-term climate data. The author(s) did well but there is room for improvement especially on these revision comments.	