Review Form 3

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_124978**
Title of the Manuscript:	**Statistical Evaluation of the Performance of SVM Kernels for Air Quality Classification: case study on India**
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This paper aims to determine if a Support Vector Machine classification technique is appropriate to be used in an air quality case study on India. The results are promising starting from the statistical evaluation done only with seven pollutants. Maybe there will be some improvements if an extended study wil be conducted that will include other important air quality pollutants as well as some meteorological factors that influence the concentrations of the pollutants in the air.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	The title is suitable.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	I may suggest that in the Abstract to be included some specific numbers that were obtained in the experiments.	
Are subsections and structure of the manuscript appropriate?	The sections and the subsection as appropriate. In the Introduction section, there may be two more paragraphs: - One in which the authors emphasize contribution of the work. - One that presents the paper structure Introduction is numbered with I, as well as Methods and Materials	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The theoretical background is presented both for the air quality index in the India air quality context as well as for the Support Vector Machines technique.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	There are classical as well as new references.	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	The English must be carefully reviewed in order to correct some missing punctuation marks or brackets as well as the reformulation of some phrases. e.g (but not only) “is required to categories air” – is required to categorize air… “that most data samples”- that majority of the data samples “and T is the transpose”- T is a simple notation, the transpose is wT The phrase that starts with “From Equation 1 a linear classifier (decision function) given by…” has no predicate. “The list of Kernels is mostly utilized for classification purpose in literature which is given in table 1.”? “The Air Quality Index have divided” – have been divided “TNR is helped to utilized to quantify the specificity”???	
Optional/General comments	**Methods and Materials a/data**: Allow me to suggest that the detailed description of this dataset may be welcomed here not in section III: The records are made hourly/daily? What is the time spam (there are records from several years? If yes, which ones?) What about meteorological factors? A higher wind speed will spread the pollution and will lower the concentrations. Why meteorological aspects were excluded from the study? Some specific data related to India characteristics as well as the National Monitoring Network (location, numbers, etc) “The comparison of kernel has done by shown steps in Fgure 3” It does not seem to be some comparison among kernels in figure 3. There seems to be a general framework/flow chart…… The notations TN, TP, FN, FP are firstly used in figure 4. Is recommended to be explained the acronyms here (not under the table 2) I believe that a more detailed description may be done for Table 6. Which experiments performs better?	

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

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