MATH 436: PORTFOLIO PROJECT PEER REVIEW

Project Title: Modeling The Effect Of Air Quality From The Great Salt Lake

Project Authors: Japheth Carlson, Nathan Longhurst, Rowan Williams

Compliance with Instructions:

• Y/N Did the authors use the LaTeX template that was provided?

Y

• Y/N Did they comply with the rule to leave the margins and fonts

unchanged from the template?

Y

• Y/N Does the project have the required length (not more than 10

pages, excluding the bibliography)

Y

• Y/N Does the project have the required format (Abstract, Back-

groundandMotivation,Modeling,Results,AnalysisandConclusions)?

Score: 10/10

Reviewer's Comments: The group followed the project guidelines perfectly keeping the latex formatting, font, and structure of the paper the same.

Questions: Background/Motivation and Problem Statement.:

• Y/N Does the paper give an adequate explanation of the background for the problem that the group is considering?

Y

• Y/N Does it explain why this problem is interesting, and what techniques methods have been previously used (if any) for this problem or similar ones?

Y explains why the problem is interesting, but leaves out any previous methods used (if any)

• Y/N Does it adequately explain how this paper fits into existing research?

N

• Y/N Does it properly cite all the appropriate references?

Y

Score: 9/10

Reviewer's Comments: The background/motivation section was captivating. The problem is significant, and the authors clearly lay out the case for working on this subject. I thought the references to Owen Lake were great and super useful. If there is anything I would add, I would try to see if there are any similar research articles related to modeling arsenic particulate spread or anything related to debris in an environmental context. If there is nothing related research wise, it would be wise to say that directly.

Modeling:

• Y/N If the authors have developed a good model, have they justified it well? Considered the potential strengths and weaknesses of the model? Have they considered other models that might be natural candidates and explained why those are not as good as the one they settled on?

Y

• Y/N If they have not succeeded in developing a good model, have they done a good job of documenting that the natural candidates are not suitable and why they are not suitable? Shown that they have thought deeply and looked carefully to try to find a good model?

Y

• Y/N Have they considered the simplifying assumptions of each model they explored. Have they made a good case that they thought about the implications of those assumptions? (what happens if they are changed?)

Y

• Y/N Have they included numerical simulations for each model they explored?

N

Score: 20/25

Reviewer's Comments:

The authors' explanation for their models was very well done. I loved how they clearly explained all their assumptions up front and then proceeded to model. With numerical simulations of their model, this section would be perfect.

Results:

• Y/N Have the authors clearly and succinctly stated and described the conclusions that can be drawn from the model they have achieved (or the the many failed attempts)?

Y

• Y/N Have they shown that their model(s) perform well quantitatively or qualitatively?

Y

Score: 9/10

Reviewer's Comments: I love how they clearly state the results of their model. I would love to see more explanation for why the model works from a qualitative perspective. I can see the results, but I would love to know the reasons why this model performs well. You do this to some extent in the next section, but it would be helpful to see some of it in the results section.

Analysis/Conclusions:

• Y/N Have they discussed their success or failure at modeling the chosen phenomenon?

Y

• Y/N Did they describe different steps they could have taken if they had more time?

Y

• Y/N Did they describe well what they learned about the techniques and method they used?

N

• Y/N Did they describe well what their various modeling attempts and final model teach us?

N

Score: 7/10

Reviewer's Comments: I thought the analysis was great. My only suggestion would be to include the different techniques the group used as well as the various models and what they learned through each different iteration. Including more about the process that led to the final model would be beneficial.

Graphics: Effectiveness and Quality:

• Y/N Are the graphics appropriate and well thought out?

Y

• Y/N Are they of high quality (not sloppy, pixelated, blurry, tiny, or huge?)

N

• Y/N Are they uncluttered and easy to understand (with complete and helpful captions and labels)?

Y

Score: 9/10

Reviewer's Comments: The plots look great. I would recommend making them bigger so that I don't have to zoom in to see exactly what is being measured.

MATH 436: PORTFOLIO PROJECT PEER REVIEW 5

Knock my Socks Off: Does this project impress you? Does it make you want to hire this team to work for you? Why or why not?

Y

Score: 10/10

Reviewer's Comments: Overall, and under the time restraints, this is a great project. I am looking forward to the final result. The problem the group decided to focus on is extremely interesting and relevant. I love how they structure the paper in the way where the key information is clearly displayed and easy to understand, I don't have to go looking to find the important stuff. The modeling section was great and showed off their technical abilities. If I was the hiring manager, I would love to hire this group.