Milestone 3: Questions Answered

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DSC 680 Applied Data Science

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Questions:

1. What can be done to improve precipitation and snow depth model accuracy?

   To improve the model for precipitation and snow depth, further analysis can be done to fine tune the p, d, and q values that are used. Additionally, more data preprocessing can be done to these fields to scale the data to fit the model better.

2. Are there other models that can be explored?

   The models that can be explored are Vector Autoregression or Vector Autoregression Moving Average. A VAR model can relate current observations with past observations.

3. How can this model for mean temperature be used?

   During implementation, the mean temperature be used by allowing a user to input a date they want to observe weather for. This way an idea of what the weather will be during the selected date can be used.

4. What interval of time is being used for this model?

   The data has daily weather information, and the model is built based on yearly averages from 1979 until 2020.

5. Would containing more features improve the performance in the model?

   Yes, adding more features or engineering more fields could help with model performance. Examples of fields can be seasonal indicators or moving averages.

6. Can your team aid in model deployment?

   Yes, this deployment doesn't require software engineering and can be done by using some of the available packages.

7. What resources are needed for model deployment?

Most packages are available online and our team will need time to generate and test deployment.

8. Is there any additional validation work needed for this?

   This model was created with an 80/20 test training split and the mean temp model performed well, so this will not need validation. However, when continuing to explore the other two variables, there will be validation to ensure the models are performing as expected.

9. Can you model based on daily data?

   Yes, the model can be done using daily data. It is recommended to use the last year worth of data to avoid scaling issues.

10. What needs to be done to maintain this model?

    This model needs to be monitored for performance. Since it is using historical data, no additional items need to be done to maintain.