how nice r-coding using for caculating N2O!

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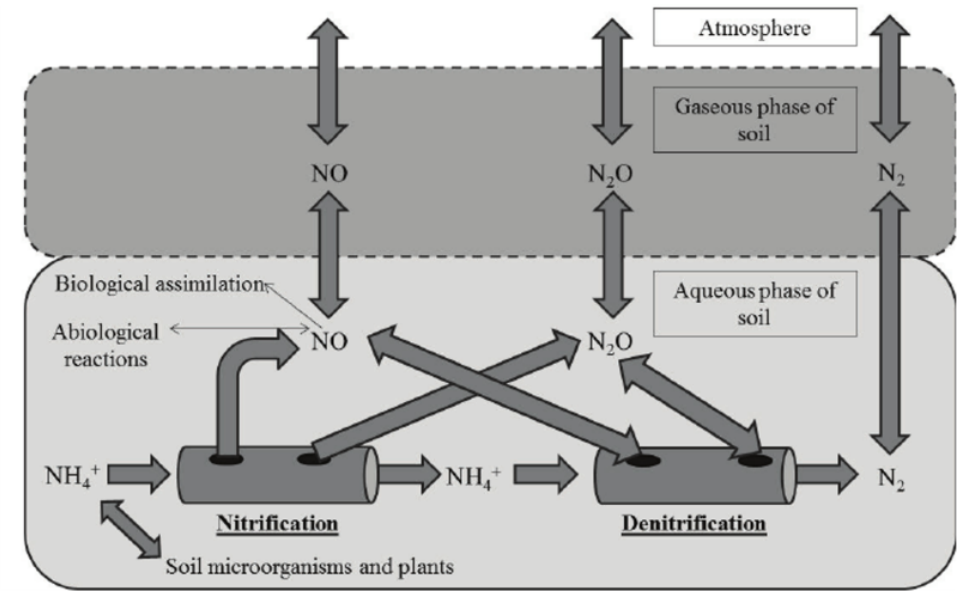

Figure 1. the hole-in-pipe method showing the breakdown on (Davidson Et Al. 2000)

Nitrous oxide (N2O) is an effective greenhouse gas. Its effect is 298 times that of CO2. N2O is mainly released from agriculture. With the increase of agricultural land area and fertilizer consumption, a large amount of nitrogen-rich fertilizer makes it difficult for microorganisms to quickly and completely decompose nitrogen fertilizer. Figure 1 The pipeline method just shows us the production process of nitrous oxide. Global nitrous oxide emissions have increased sharply. Measuring N2O is expensive and time-consuming, which makes monitoring more difficult. We can run the R code to find the covariates, run the model, and maybe use the model to interpolate N2O. We look for some covariates that affect N2O, and use certain covariates to interpolate N2O emissions between two field measurements. In this way,

understand the best conditions for reducing N2O emissions. The main question we asked for this is: What are some covariates that affect N2O emissions? How do we predict future N2O emissions?

Using data provided from different measurement sites, we can filter out unnecessary data and run the model to view the covariates, which may be able to interpolate N2O through the correlation table using the model. Some covariates were used to interpolate N2O emissions between field measurements. In this way, understand the best conditions for reducing N2O emissions.

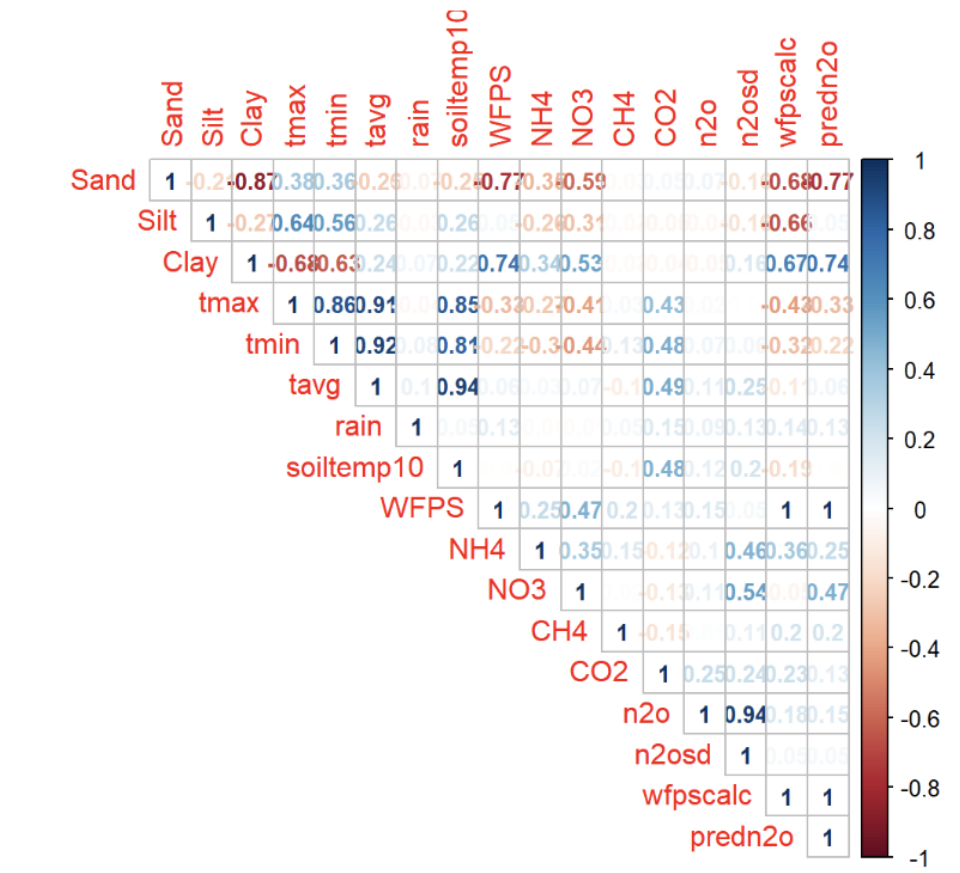

Table 1. A correlation matrix comparing all of the given variables

We found that after running many models with covariates with high correlation ratings, the one-to-one ratio of linear regression is not sufficient to predict N2O. After the linear regression model, there are GAMs model or General Algebraic model that can smooth the best fit line around the data, which

can help n2o keep changing. Table 1 output from the model shows the correlation matrix comparing all the given variables. However, it shows that none of the covariates has a strong enough confidence interval to affect N2O emissions alone.

R language is easier to learn than other computer languages. Although it is very different from programming languages such as C language, it still retains the basic logic and natural language style of programming languages. Analyzing and sorting out the data through the R language greatly facilitates us to find the required results. Among them, the application of GAMs model and linear regression makes N2O data visualization easier for readers to understand. Analyzing and sorting out the data through the R language greatly facilitates us to find the required results. Among them, the application of GAMs model and linear regression allows data visualization to make the data easier to understand by readers.

Reference

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