Dear Dr. Danielle de Jonge,

My name is Chueh-Chen Tung, and I’m a master’s student supervised by Dr. Chih-Lin Wei at the Institute of Oceanography in Taiwan. Currently, we are working on the benthic food web model of Gaoping Submarine canyon.

Here I’m writing this email to thank you for your comprehensive explanation and codes for LIM model construction on your blog “DANIELLE AND THE DEEP SEA”, which helps me understand this method easily. However, I still have some problems with the model and the following indices calculation.

The first question is for the inequality constraints. In my case, I set the sedimentation rate of detritus with a fraction of 0 to 0.24, but the values from both parsimonious and likelihood results are far beyond this constraint (over 0.8). I’m wondering if you had ever encountered this kind of problem for the invalid constraints?

Second, I’m curious about the interpretation of network indices. As the network indices are calculated from the solutions set of likelihood method, it will also become a large set of data points. I read that you took the average and standard deviation for the network indices in de Jonge et al. (2020); however, in my case, I plotted the distribution of my network indices values, and I found it difficult to merely take the average and standard deviation due to skewed distribution. So, I’m wondering if you recommend doing further statistical analysis on these network indices?

Finally, thank you again for everything you’ve done!

I’m looking forward to your reply.

Best regards,

Chueh-Chen Tung

Dear Daniëlle,

Thank you so much for your prompt reply and clear answers to my questions!

For the first question, I will check my codes again if I made some mistakes.

As you mentioned about the “error” message, sometimes I also get LSEI errors. However, when I get LSEI errors, the model still gives me a parsimonious result but with some negative flow values. I’m really curious about how do we interpret these values?

For the second one, I’ve read the paper you attached before I found your blog. And now I got a clearer understanding of using the mean and st. dev on the results from both the likelihood method and network indices. Thank you!

I appreciate your kindly help because there’s no one I can discuss with here. It’s so nice to reach out to you!

Warm regards,

Chueh-Chen