

It seems to me that you have not quite responded to the comment by anonymous reviewer #2, regarding the counterintuitive effect of increased stickiness on the slope that becomes steeper whereas one should intuitively expected it to flatten. As far as I am reading, the fact that this result is counterintuitive is only acknowledged, without any further discussion. In the "author response", you state that you do not know why the slope behaves that way. Perhaps you have been able to elucidate the problem in the mean time. Else, I think readers would be happy to have a sentence or two (even speculative) about potential reasons.

Yes, that is correct. I went back and looked more closely at the analysis. It turns out that I made a mistake. I treated zeros as non-data and so I got a wrong slope. The trends I got earlier were a fluke and the analysis is now correct in showing that there is no pattern to the slope with changes in different parameters. I am grateful to you for prompting me on the subject which allowed me to see my mistake.

The changes I have made are to figure 6. d) and e) panels are changed and panel f) is added.

Section 3, lines 793-804 are changed to

Particle Size Spectrum The particles size spectrum produced by the model does not seem to sensitive to envi- ronmental or model parameters (figure 6). In our model the slope of the whole spectrum varies around -3 (figure 6). At the small end ($r < 40\mu\text{m}$) it is less steep (between -2.5 and -3), and at the large end ($r > 30\mu\text{m}$) it is steeper (between -3 and -4). This may be attributed to the different mechanisms primarily responsible for coagulation for different size classes (brownian motion, shear, differential settling) or zooplankton grazing. The slope does not seem to vary systematically to changes in PP, SST or model parameters.

And, Section 4.2 lines 890-891 are changed to

In our model the slope of the whole spectrum varies around -3 (figure 6).

Sincerely,
Tinna