

***Interactive comment on* “The Importance of Biological Particles to the Ice Nucleating Particle Concentration in a Coastal Tropical Site” by Luis A. Ladino et al.**

Anonymous Referee #3

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General Comments: This article discusses INP measurements carried out at Sasal on the coast of the Gulf of Mexico and attempts to identify the sources of INP. They have identified the biological particles from the tropical ocean as the source of INP at measurements site when the wind direction is from the GoM. Considering the importance of the INPs and lack of measurements available over the in tropical latitudes, this article makes a compelling case for the publication. The article is well written although interpretation of measurement can be better. Agreeing with the comment by an anonymous referee, who has commented on the article exhaustively, the authors need to explain the method of INP measurement in brief since that is the main thrust of the article. The lack of correlation between size bin and INP at different temperatures in

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Fig. 6 warrants detail analysis and in-depth discussion. I would encourage the author to normalize the INP concentration with the total number of particles in respective size bins. Similarly, the chemistry can be analyzed for bins to segregate the contribution of particles of different chemical composition.

Technical comments

Line 10: should it be tropical instead of topical(?) Line 35: It is encouraged that the author cites the original literature along with the newer cross-references. e.g. Kanji et al. (2017) cite other older references. Line 41: Using the word “most important” may not be a good idea. Line 110: It would be nice if “wet” is quantified in terms of relative humidity if the measurement is available. Line 115: Figure 2 shows three types of time series for 3 different cut off of the particles sizes. Since the instruments used employ different principles of measurements, it would be appropriate to explain the instrument principle in brief. Line 235: It should be Fig. 3 instead of Figure 3.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-1215>, 2018.

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