



Supplement of

Simulating glacial dust changes in the Southern Hemisphere using ECHAM6.3-HAM2.3

Stephan Krätschmer et al.

Correspondence to: Stephan Krätschmer (stephan.kraetschmer@awi.de)

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Supplement Material

Dust deposition - PD 1996-2005

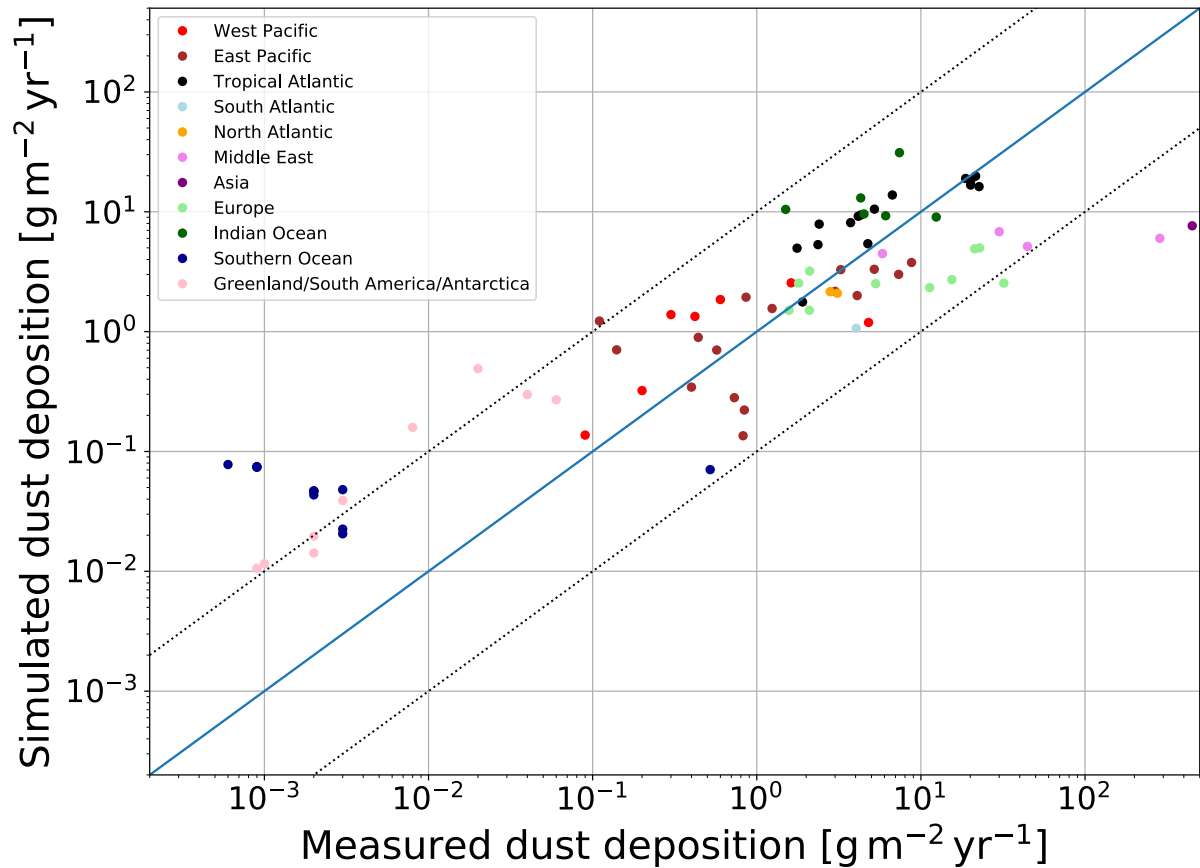


Figure S1. Scatterplot showing the comparison of the total dust deposition simulated by our model to observational data from 84 sites (Huneus et al., 2011) for present-day climate conditions. The plot suggests in particular in the West Pacific an improvement of the model used in our study compared to the older version used by (Stanelle et al., 2014).

Total dust deposition - PD 1996-2005

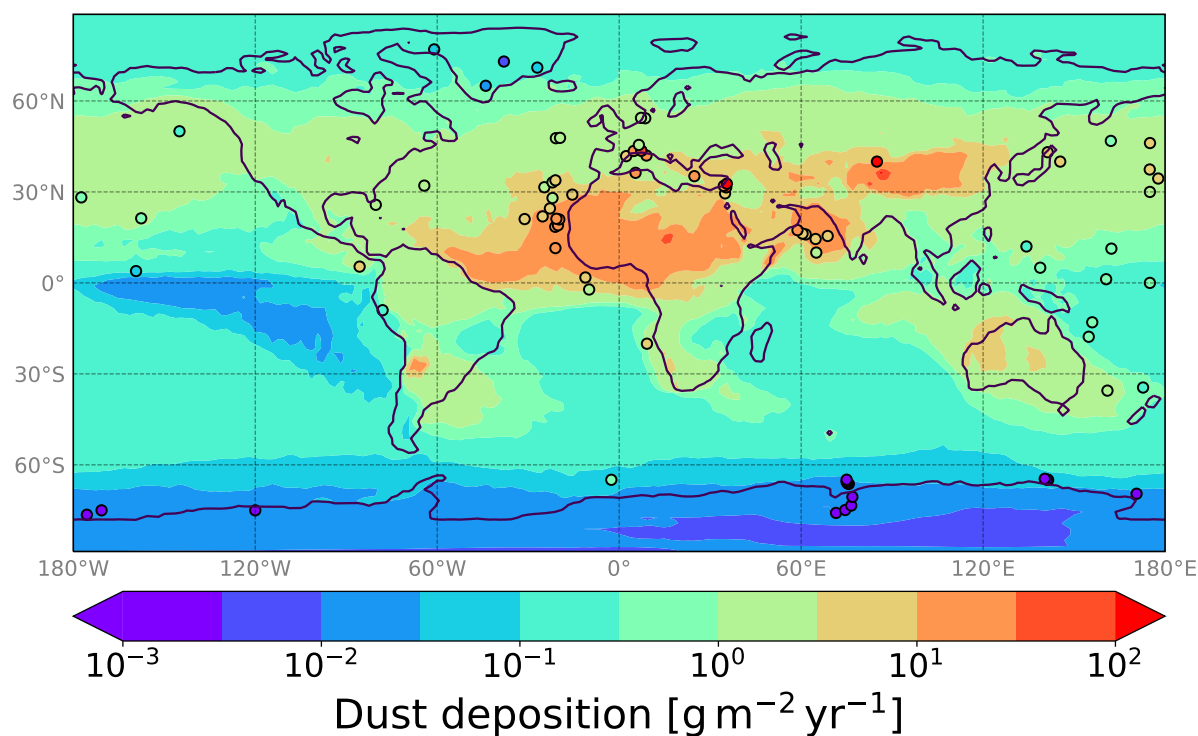


Figure S2. The map shows dust deposition data from 84 sites (points, Huneus et al. (2011)) compared to the dust deposition simulated by our model for present-day climate conditions.

References

Huneus, N., Schulz, M., Balkanski, Y., Griesfeller, J., Prospero, J., Kinne, S., Bauer, S., Boucher, O., Chin, M., Dentener, F., Diehl, T., Easter, R., Fillmore, D., Ghan, S., Ginoux, P., Grini, A., Horowitz, L., Koch, D., Krol, M. C., Landing, W., Liu, X., Mahowald, N., Miller, R., Morcrette, J.-J., Myhre, G., Penner, J., Perlwitz, J., Stier, P., Takemura, T., and Zender, C. S.: Global dust model intercomparison in AeroCom phase I, *Atmospheric Chem. Phys.*, 11, 7781–7816, <https://doi.org/10.5194/acp-11-7781-2011>, 2011.

Stanelle, T., Bey, I., Raddatz, T., Reick, C., and Tegen, I.: Anthropogenically induced changes in twentieth century mineral dust burden and the associated impact on radiative forcing, *J. Geophys. Res. Atmospheres*, 119, 13,526-13,546, <https://doi.org/10.1002/2014JD022062>, 2014.