PMIP4 CESM dust data

Data files

- file names = `PMIP4_DUST_Albani_<field>_<expt>.nc`
  - `field` = see Variables section below
  - `expt` = `PI`, `MH` or `LGM`
    - The gaussian weights file does not depend on the experiment: `PMIP4_DUST_Albani_gw.nc`

Dimensions

- nb_time = 12
  - 12 time steps in each file, corresponding to the climatological monthly averages (with the exception of the soil erodibility variable), indicated as days since 2020-01-01 00:00:00. They are assumed to all have equal weight
  - time = [14, 44, 74, ... 284, 314, 344]
- nb_lat, nb_lon = 192, 288 (0.95 x 1.25 degrees)
  - latitude_values = [-90, -89.05759, -88.11518, ... 88.11518, 89.05759, 90]
  - longitude_values = [0, 1.25, 2.5, ... 356.25, 357.5, 358.75]
- size_bin = 4 (dust particle size classes)
  - dust size bin edges = 0.1, 1.0, 2.5, 5.0, 10.0 µm (diameters)
  - size values = [1, 2, 3, 4]
    - 1 = 0.1-1.0 µm, 2 = 1.0-2.5 µm, 3 = 2.5-5.0 µm, 4 = 5.0-10.0 µm (diameters)
- nb_levels = 26 hybrid sigma-pressure levels
  - only for the `conc` variable
  - check the `PMIP4_DUST_Albani_conc_<expt>.nc` files for details about the hybrid coordinates

References

Please cite **all** the following papers

- Albani, S., Mahowald, N. M., Perry, A. T., Scanza, R. A., Zender, C. S., Heavens, N. G., Maggi, V., Kok, J. F., and Otto-Bliesner, B. L.: **Improved dust representation in the Community Atmosphere Model**, J. Adv. Model. Earth Syst., 6, 541–570, doi:10.1002/2013MS000279, 2014.
- Albani, S., Mahowald, N. M., Winckler, G., Anderson, R. F., Bradtmiller, L. I., Delmonte, B., François, R., Goman, M., Heavens, N. G., Hesse, P. P., Hovan, S. A., Kang, S., Kohfeld, K. E., Lu, H., Maggi, V., Mason, J. A., Mayewski, P. A., McGee, D., Miao, X., Otto-Bliesner, B. L., Perry, A. T., Pourmand, A., Roberts, H. M., Rosenbloom, N., Stevens, T., and Sun, J.: **Twelve thousand years of dust: the Holocene global dust cycle constrained by natural archives**, Clim. Past, 11, 869-903, doi:10.5194/cp-11-869-2015, 2015.
- Albani, S., Mahowald, N. M., Murphy, L. N., Raiswell, R., Moore, J. K., Anderson, R. F., McGee, D.,

Bradtmiller, L., Delmonte, B., Hesse, P. P., and Mayewski, P. A.: **Paleodust variability since the Last Glacial Maximum and implications for iron inputs to the ocean**, Geophys. Res. Lett., 43, doi:10.1002/2016GL067911, 2016.

Download

You will find below a table with all the available data files, and their *md5sum* checksum (if you want to check that you download was OK, you can just type `md5sum file.nc` and compare the result to what is displayed in the table).

If you want to download a file, click on the PMIP4 CESM dust data download link and then on the file you need.

md5sum output	Data file
8859ab3b77ce01008785b05fec5cc459	PMIP4_DUST_Albani_aot_LGM.nc
a99c8627d21cdc67ab989437b0808e00	PMIP4_DUST_Albani_aot_MH.nc
118d105d29a7da31e5a443fba87c4e96	PMIP4_DUST_Albani_aot_PI.nc
5fa086e300324080614db8175b223220	PMIP4_DUST_Albani_conc_LGM.nc
e7c929737c681bde8cde11198578af9e	PMIP4_DUST_Albani_conc_MH.nc
bf0baa1a003a2d85d306d62e2b5f20f9	PMIP4_DUST_Albani_conc_PI.nc
3727a77888c8809a0f87c8e51e37668b	PMIP4_DUST_Albani_ddep_LGM.nc
568f5f2ecc516a618b27aebbf6ac8475	PMIP4_DUST_Albani_ddep_MH.nc
01db9ba162a3ec1f8bd0d0bc2abcc63a	PMIP4_DUST_Albani_ddep_PI.nc
d29ad13c7508a0389ef0740c83069d1a	PMIP4_DUST_Albani_emis_LGM.nc
7ecaf8a616bd31ccb600c8162ad8f815	PMIP4_DUST_Albani_emis_MH.nc
5eff212c3cfc96bacc119eedfe0ee91e	PMIP4_DUST_Albani_emis_PI.nc
e14a6ffba0b74a9211ad67e9642b5987	PMIP4_DUST_Albani_erod_LGM.nc
5d6f767abbca1e560a5fc326e828aee1	PMIP4_DUST_Albani_erod_MH.nc
24e8470134020cecdc552afd2dddf425	PMIP4_DUST_Albani_erod_PI.nc
1cf6720ad615ad97b50842298fd02f51	PMIP4_DUST_Albani_gw.nc
6c7f9d1a84c36540b42ea6bb1eeadf59	PMIP4_DUST_Albani_load_LGM.nc
76079e93089a87e3fd128b9895db3297	PMIP4_DUST_Albani_load_MH.nc
2e121549b158cf9dad1761ea681ca835	PMIP4_DUST_Albani_load_PI.nc
e47e21fa07df86629e1de6b38459eae0	PMIP4_DUST_Albani_rfsl_LGM.nc
46a397182b1c0324173a0bd84b8bf9b9	PMIP4_DUST_Albani_rfsl_MH.nc
f9bb094451dd31a8b6d92ba320944307	PMIP4_DUST_Albani_rfsl_PI.nc
1359e872a421df6970da5e3e50f453cd	PMIP4_DUST_Albani_rfss_LGM.nc
cfb9261506308e84d90d1041a8cafb19	PMIP4_DUST_Albani_rfss_MH.nc
6b3e529f314775270fd87007c45d4e1b	PMIP4_DUST_Albani_rfss_PI.nc
a43755b757169c516d2aad9cdffa1456	PMIP4_DUST_Albani_rftl_LGM.nc
fb7474a2c61668f9f2b5d88199fdf03b	PMIP4_DUST_Albani_rftl_MH.nc
b2de8b84a236764234a9abc9cbd3bbb7	PMIP4_DUST_Albani_rftl_PI.nc
dfc96dbbe1bf33fc6f9e0cf7a16b8f2a	PMIP4_DUST_Albani_rfts_LGM.nc
5ad9e6586b2bc7771a7b1b0688767476	PMIP4_DUST_Albani_rfts_MH.nc
98b9b2a122b9b9c86bd432e6d1dac502	PMIP4_DUST_Albani_rfts_PI.nc
182e86d78be48fc5c2c1ec57f13aa021	PMIP4_DUST_Albani_wdep_LGM.nc

md5sum output	Data file
f83c22185608042a92107609f59ef658	PMIP4_DUST_Albani_wdep_MH.nc
1dc20b285c666765cf9ea61e53a20549	PMIP4_DUST_Albani_wdep_PI.nc

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