**This folder contains:**

* Ozone exposure gridded files (GBD 2019)
* Ambient particulate matter pollution gridded files (GBD 2019)
* Burden summaries:
  + Summaries of total air pollution burden (aggregated to same regions as exposure summaries)
  + Cause-specific air pollution burden (aggregated to same regions as exposure summaries)
  + Cause-specific air pollution burden, neonatal causes only (aggregated to same regions as exposure summaries)
  + Percent of total, cause-specific burden attributable to air pollution (aggregated to same regions as exposure summaries)
* Exposure summaries for ozone, ambient particulate matter, household air pollution (proportion using solid fuels and PM2.5 exposure) aggregated to
  + Global, GBD Super Regions, GBD Regions, GBD national, GBD subnational
  + SDI levels, World Bank regions, WHO regions, World Bank Income levels, EU-27 (without Great Britain), OECD, G20
* GBD 2017 IER: cause-specific parameters, input dataset, and IER appendix table; used in GBD 2017
* GBD 2019 IER: cause-specific parameters (NOTE: this version of the IER was not used for GBD, as we switched to MR-BRT)
* MR-BRT: input dataset, risk curves, source list, TMREL draws for all PM2.5 outcomes; used in GBD 2019 (see notes below)
* Gridded population files used in GBD 2019 & 2020 air pollution models
* Total burden: total burden (attributable to ALL risk factors) for air pollution-associated causes
* GBD 2019 location hierarchies
* SDI values (national and subnational locations)

**MR-BRT Notes**

In the MR-BRT folder you will find a file with exposures from 0 to 2500, rounded to 2 significant digits (i.e. 0,0.01,0.02,…,1.1,1.2,…,11,12,…,110,120,…,1100,1200,…2500). For each exposure value, we have 1000 estimates of the effect size and the mean and 95% CI. The summary folder contains just the mean and confidence intervals.

We estimate one curve for each cause for both incidence and mortality with the exception of CVD cause (ischemic heart disease and stroke). For these we estimate separate curves for each 5-year age group. All files represent relative risks except birthweight (continuous shift in grams, bw) and gestational age (continuous shift in weeks, ga).

In GBD2019 we generated the curve without incorporating our theoretical minimum risk exposure level (TMREL) estimate. We then use the TMREL when generating our RR estimates with the following equations:

For exposure, *X,*

and

With this methodological update, users can choose whatever value of the counterfactual is suitable to their own analysis. In GBD 2019, we use a uniform distribution from 2.4 to 5.9 micrograms/meter cubed. I have included the 1000 samples of this distribution we used in our analysis.

I have also included the input data files. The fields used for fitting the curves include conc (95th percentile), conc\_den (5th percentile), and log\_rr & log\_se (mean and standard error of the log relative risk scaled to the relevant exposure range) or shift & shift\_se (mean and standard error of the shift scaled to the relevant exposure range for birthweight and gestational age). These datasets include active smoking (ier\_source=”AS”), but we DID not include active smoking in the final MR-BRT models.