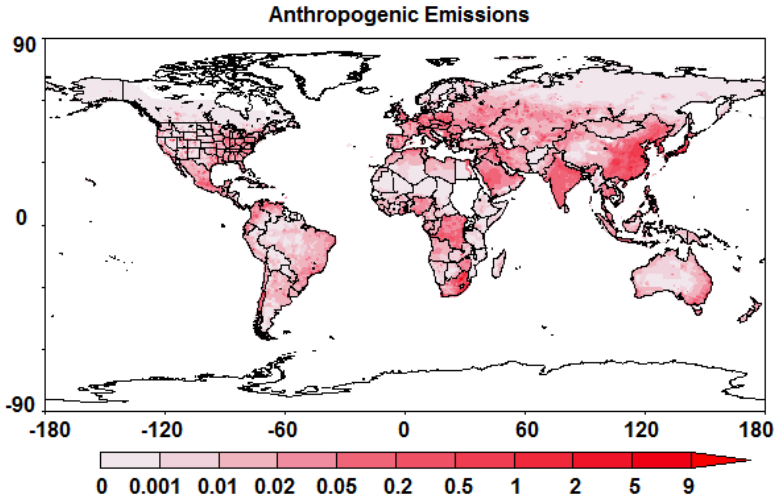
Appendix: Mercury Emissions used in CAM-Chem/Hg model.

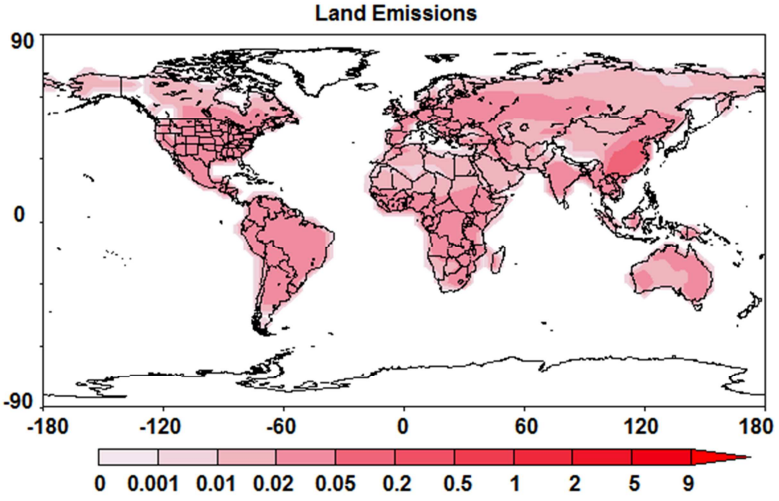
1. Anthropogenic emissions

The anthropogenic emission of mercury is directly adopted from global mercury emission inventory [Pacyna et al., 2005]. The anthropogenic emissions are shown in annual averaged total mercury emissions. (Unit: $\mu g/m^2/day$)



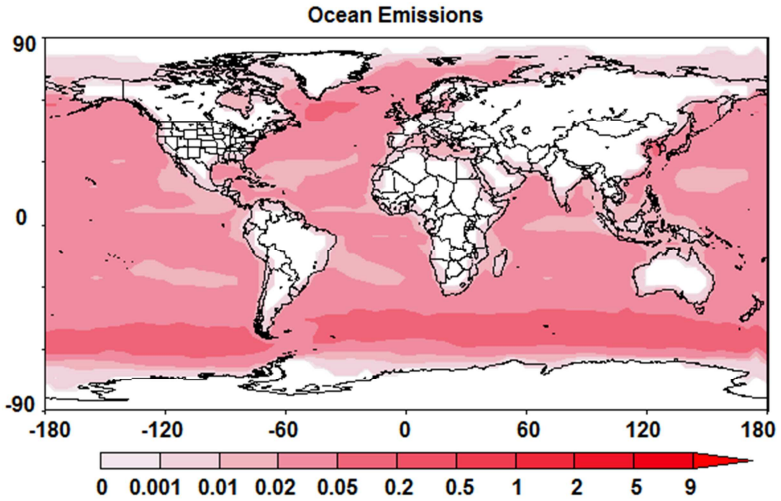
2. Land emissions

The land emission is calculated according to environmental variables simulated by model. It considers the emission from land surface including sources of soil and vegetation. Land emissions have strong seasonality. The base emissions of the dynamic scheme are shown in annual average. (Unit: $\mu g/m^2/day$)



3. Ocean emissions

The ocean emission is calculated through air-sea interaction method. It considers the emissions of mercury from ocean storage and newly deposited mercury. The ocean emissions have strong seasonality. Emissions varies with meteorological and ocean surface conditions. The annual averaged ocean Hg emissions based on CCSM3 meteorological data for 2000 are shown. (Unit: $\mu g/m^2/day$)



4. Volcanoes Emissions

The mercury emitted from volcanoes is shown in annual average. The distribution of emissions follows the spreading of volcanoes. (Unit: $\mu g/m^2/day$)