



# **Brief Introduction to the AeroCom Hindcast Emission Inventory and the IPCC AR5 Inventory**

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# AEROCOM\_HC Inventory

- The AeroCom emission inventory AEROCOM\_HC was specifically developed for aerosol hindcast experiments for the time frame 1980-2008. It includes BC, OC, and SO<sub>2</sub>.
- Website:

[http://www-lscedods.cea.fr/aerocom/AEROCOM\\_HC/](http://www-lscedods.cea.fr/aerocom/AEROCOM_HC/)

The site contains README documents for each provided dataset and a code sample for processing data from the volcanic emission files (the only non-gridded files). All files are provided in the NetCDF format. Recommended tool for regridding is NCREGRID. Website:

<http://www.pa.op.dlr.de/~PatrickJoeckel/ncregrid/index.html>

# IPCC AR5 Inventory

- The IPCC AR5 inventory was designed for both future climate experiments and hindcast runs back to 1850. It includes a much broader set of species (aerosols, greenhouse gases, ...) for the historic emissions. The future runs focus on 4 Recommended Concentration Pathways (RCPs) up to 2100 and an extension to 2300. Both emissions, concentrations (only historical) and land-cover changes are provided.
- Websites:

<http://www.iiasa.ac.at/web-apps/tnt/RcpDb/dsd?Action=htmlpage&page=about>

[ftp://ftp-ipcc.fz-juelich.de/pub/emissions/gridded\\_netcdf/](ftp://ftp-ipcc.fz-juelich.de/pub/emissions/gridded_netcdf/)

All files are provided in the NetCDF format. The IIASA site contains tools for the online visualization of the datasets.

# Overview of the 2 Inventories

	<b>IPCC AR5 (1850-2000 and 2000-2100 [2300])</b>	<b>AEROCOM_HC (1980-2008)</b>
Species	BC, OC, SO <sub>2</sub> , dust, sea salt, NH <sub>3</sub> , NMVOC, greenhouse + other trace gases	BC, OC, SO <sub>2</sub>
Spatial resolution	0.5x0.5 degrees	1.0x1.0 degrees
Temporal resolution	Decadal	Yearly (daily for volcanoes)
Seasonal Variation	Biomass burning (BB)	BB/Aircraft
Emission sectors	Anthrop., BB, ships, aviation (no SO <sub>2</sub> ) [planned: biogenic, volcanic]	Anthrop., BB, ships, aviation, volcanic

IPCC AR5 includes only a subset of species for the future runs.