



**Task Force on Hemispheric
Transport of Air Pollution**

EDGAR-HTAPv3 Emissions Mosaic

Overview of development plan

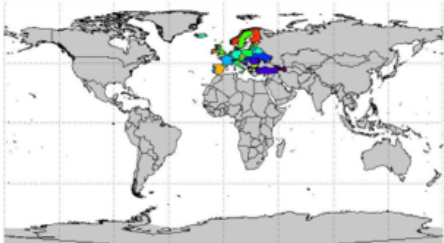
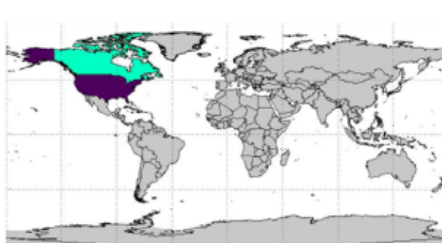
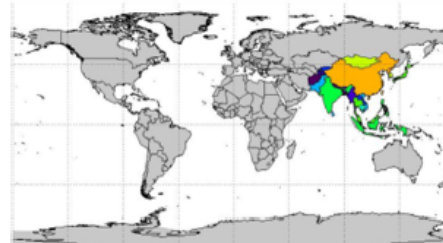
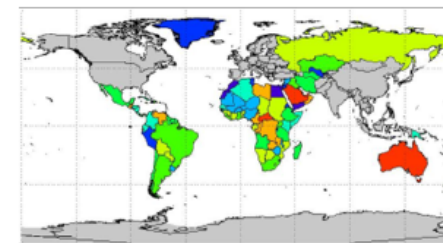
GEIA 2020 online meeting

Tim Butler, Monica Crippa, Diego Guizzardi, Jacek Kaminski, Terry Keating,
Heather Morrison, Elisabetta Vignati, et al.

tim.butler@iass-potsdam.de

EDGAR-HTAPv2

- Global, 0.1 x 0.1 degree resolution “Emissions Mosaic”
- <https://doi.org/10.5194/acp-15-11411-2015>

EMEP-TNO (MACCII)	US EPA _Environ Can	MICS-Asia (+ REAS2.1)	EDGARv4.3 (prelim.)
Country inventories + point sources	State inventories + point sources	County inventory for China + country inventories from CAPSS & REAS 2.1	Country inventories from the preliminary version of EDGARv4.3
All except international shipping and except international aviation	All except international shipping and except international aviation	All except international shipping, international aviation and agricultural waste burning	All inclusive international shipping and international aviation
Yearly grid maps (monthly profiles of EMEP model added)	Monthly profiles	Monthly grid maps	Monthly profiles (for three different latitude bands)
0.125° × 0.0625° converted to 0.1° × 0.1° by raster resampling with factor 1/5x1/5 and aggregation of 4 × 8	0.1° × 0.1° and height profiles	0.25° × 0.25° converted to 0.1° × 0.1° by raster resampling 1/5 × 1/5 and aggregation of 2 × 2	0.1° × 0.1°
CO, NMVOC, NO _x , SO ₂ , NH ₃ , PM coarse and fine and BC/OC fractions	CO, NMVOC with speciation, NO _x , SO ₂ , NH ₃ , PM ₁₀ , PM _{fine} , BC and OC	CO, NMVOC, NO _x , SO ₂ , NH ₃ , PM ₁₀ , PM _{2.5} , BC and OC	CO, NMVOC, NO _x , SO ₂ , NH ₃ , PM ₁₀ , PM _{2.5} , BC and OC
			

EDGAR-HTAPv2: limitations

- Only 2008 and 2010
 - No trend analysis possible
- Only 7 sectors
 - AIR; SHIPS; ENERGY; INDUSTRY; TRANSPORT; RESIDENTIAL; AGRICULTURE
 - Difficult to assess specific policy interventions
- Outdated
 - Newer information is available

EDGAR-HTAPv3: aspirations

- Longer time series
 - Trend analysis
- Improved sectoral resolution
 - More detailed source-receptor relationships
 - Better basis for emission scenarios
- Additional regional inventories

EDGAR-HTAPv3: timeline

- 2020 Q1: initial scoping
- 2020 Q2-3: data collection and harmonisation
 - Emission sectors
 - Spatial resolution
 - Time period
- 2020 Q3-4: mosaic development and assessment
 - Tool development
 - Consistency checks
- 2021 Q1: initial release
- 2021 Q4: publication
- From 2022: use for TF-HTAP workplan items

EDGAR-HTAPv3: partners

- Global inventory
 - EDGARv5
- Europe
 - CAMS-REG-AP
- North America
 - EPA and Environment Canada
- Asia
 - REASv3: (India, China, Japan, Koreas, South East Asia, Indonesia)
 - MIX: mosaic of regional Asian inventories, under development
- Other regions
 - Australia, Argentina, and Chile

EDGAR-HTAPv3: next steps

- Determine the largest possible set of sectors
 - Discussions ongoing
- Interpolation/extrapolation in time
- Additional regional partners?
- Contact: tim.butler@iass-potsdam.de