# Capacity building for WB countries:
feedback from the training on "Emissions distribution methodology and introduction to EDGAR WEB-based gridding tool"

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European Commission
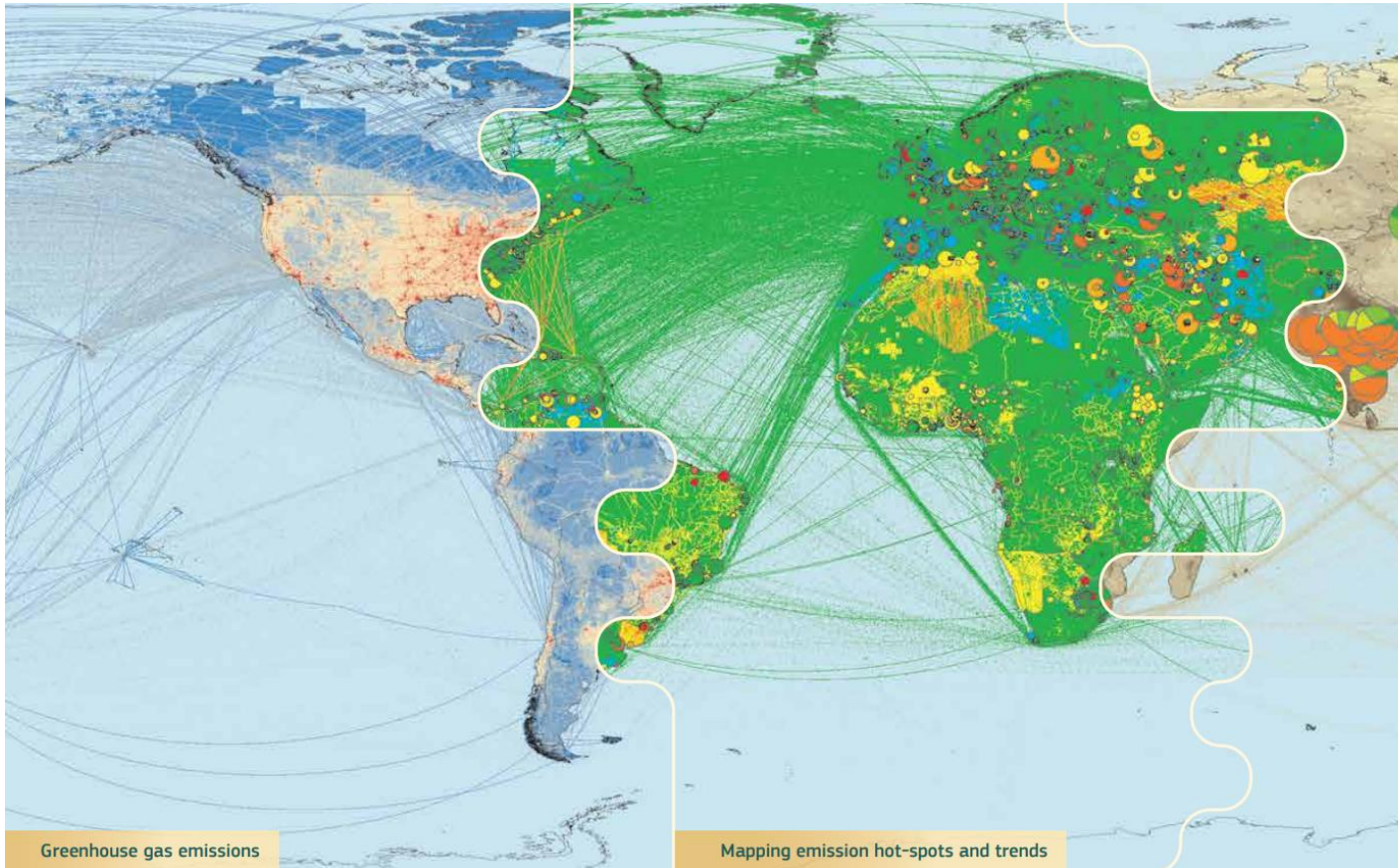
EDGAR

Greenhouse gas emissions — Mapping emission hot-spots and trends

EDGAR — The Emissions Database for Global Atmospheric Research

Mapping human emissions on Earth

WHAT IS IT?
EDGAR is a multipurpose, independent, global database of human emissions of greenhouse gases and air pollution on Earth.

https://edgar.jrc.ec.europa.eu/

Organisers

The Joint Research Centre (JRC) of the European Commission, Clean Air and Climate Unit organised the training on "Emissions distribution methodology and introduction to EDGAR WEB-based gridding tool",15-17 June 2022, Virtual/WebEx as a follow up of the EDGAR &TFEIP&UNFCCC training on "Emissions compilation" in 2020.

Objective:
Provide support to countries that have limited capacity or knowledge to perform spatial distribution for their reporting of gridded data at 0.1x0.1 degree resolution under the LRTAP Convention and the National Emissions reduction Commitments (NEC) Directive.

Framework:
The JRC project "Supporting the Green Deal in the Western Balkans (GDWeB).

Joint activity:

➢ The Emissions Database for Global Atmospheric Research (EDGAR) of JRC/EC

➢ Task Force on Emission Inventories and Projections (TFEIP) of EMEP/LRTAP Conventions

Participants and topics

Participants:

Emissions country experts from the Western Balkans region

Serbia, Montenegro, Kosovo, Bosnia & Herzegovina, North Macedonia and Albania (18 experts).

Trainers:

EC/JRC/EDGAR (Marilena Muntean, Diego Guizzardi)

CLRTAP/EMEP/TFEIP(Jeroen Kuenen, Leonidas Ntziachristos)

Topics included:

➢ LRTAP Convention: Requirements for national reporting including those on gridded emissions

➢ Progress and achievements in Western Balkans countries

➢ EDGAR methodology for emissions distribution

➢ Introduction to EDGAR Web-based gridding tool

➢ Practical applications: point, line and area sources

➢ Use the EDGAR Web-based gridding tool.
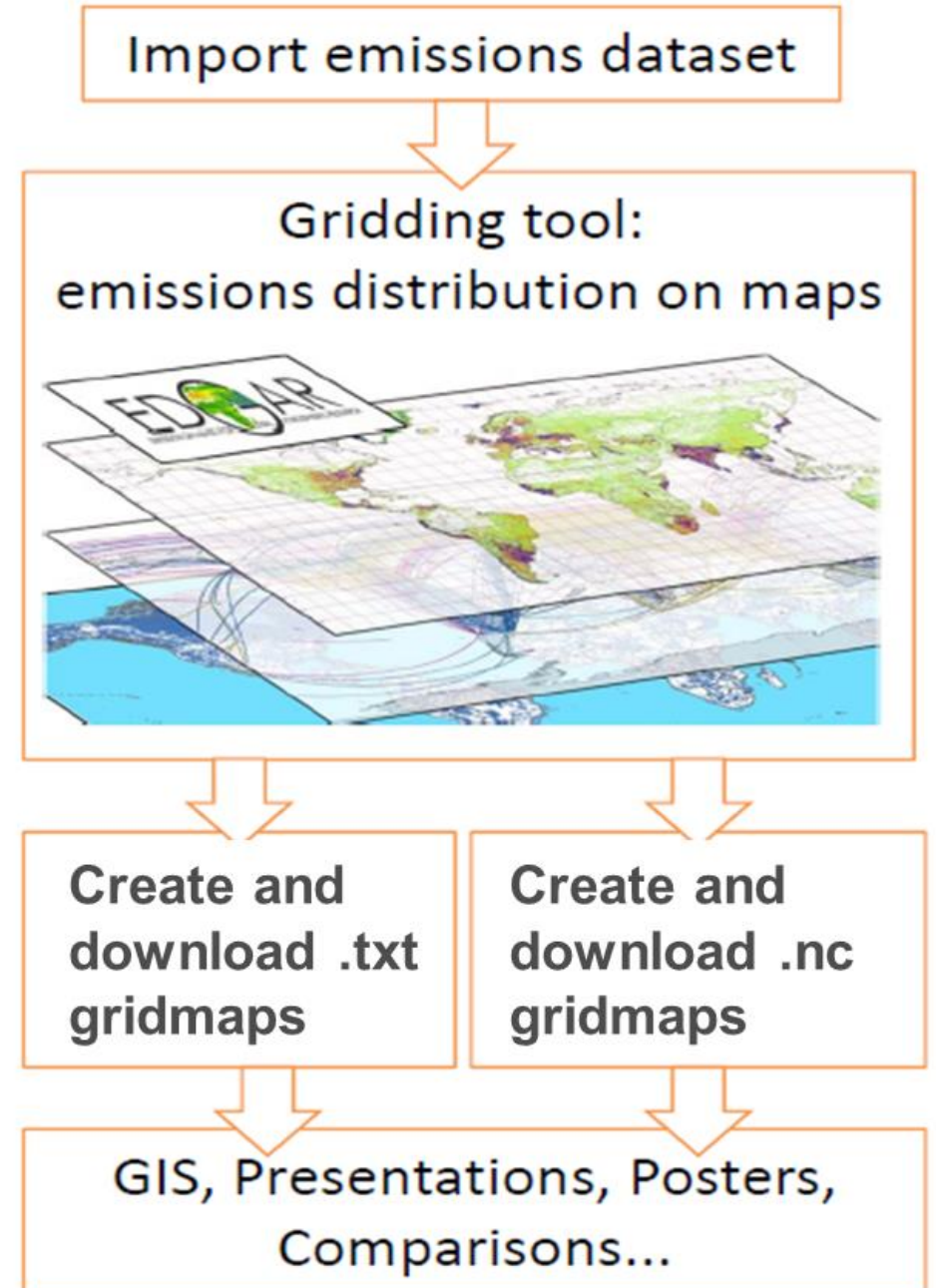
The uniqueness of this event

consisted of:

➢ focusing on emissions distribution in support to country reporting

➢ setting up this event as a joint activity EDGAR (independent global emissions inventory) and CLRTAP/EMEP/TFEIP

➢ inviting experts involved in emission compilation/distribution/reporting from each WB country

➢ widening the possibilities of learning and exchange expertise; the experts had/have also the possibility to learn from each other

➢ providing access to the EDGAR Web-based gridding tool.
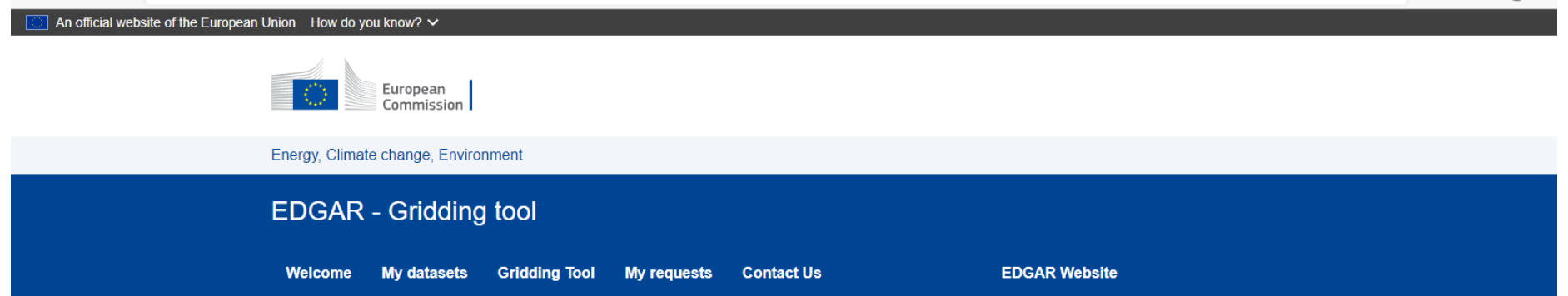
European Commission

EDGAR Web-based gridding tool

➢ Developed by EDGAR team

➢ Uses EDGAR proxy to distribute emissions for:

o small combustion activities sector (1A4i)

o road transport sector (1A3b)

➢ Instructions on:

o how to prepare the input file: examples

o how to navigate into the EDGAR Web-based gridding tool

➢ practical applications

Data visualisation: results

Import emissions dataset

Gridding tool:
emissions distribution on maps

Create and download .txt gridmaps

Create and download .nc gridmaps

GIS, Presentations, Posters, Comparisons...

EDGAR Web-based gridding tool:
how to navigate into the application

Step 1

Access the tool

https://edgar.jrc.ec.eur
opa.eu/gridding_tool

The system asks to insert the
ECAS password: please follow
the instructions and create your
ECAS password.

An official website of the European Union   How do you know? ⌄

European Commission

Energy, Climate change, Environment

EDGAR - Gridding tool

Welcome   **My datasets**   **Gridding Tool**   **My requests**   **Contact Us**   **EDGAR Website**

Introduction

With the EDGAR gridding tool, the users can create gridmaps for two sectors:

- small combustion
- road transport

How to proceed:

1. **Prepare the input file** From the menu "My datasets", select a dataset (or create a new one by choosinng ***New emissions dataset***), the user can download the Template; please fill in with the requested information. For example, the column "Country code A3" is for indicating the country code (e.g. ITA), the column "Substance" is for providing the name of substances (e.g. CO2, NOx, PM2.5, SO2 etc.). "PR code" means process code e.g. TRO.ROA.DIE.BS0 with the codes of three digits as following: TRO-transport, ROA-road transport sector, and DIE-Gas/Diesel Oil as fuel used in BS0-buses. In the columns "Y_1970", etc. the user should provide the emissions for each process code in [kt].

2. **Upload the input file** From the menu "My datasets", select a dataset (or create a new one by choosinng ***New emissions dataset***), the user can upload the Input file at "Template upload".

3. **Run the gridding** From the menu "Gridding Tool", Select a dataset, the user can select the input file. Please select the periods, compound and sector as well. Run the gridding by clicking on "Submit the request".

4. **Download the gridmaps (.txt and .nc)** From the menu "My requests", the user can download

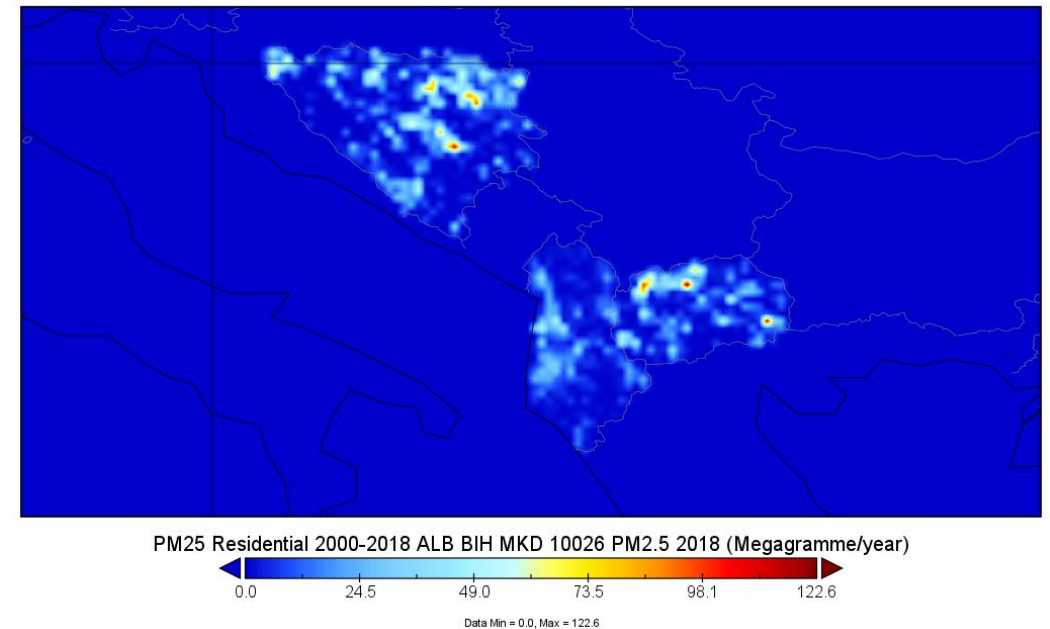# Download the gridmaps: .txt and .nc

PM25_Residential_2000-2018_ALB_BIH_MKD_10026_PM2.5_2018 - Notepad
File Edit Format View Help
Sunday 12th of June 2022 12:55:04 PM
Compound:PM2.5; emissions_ds_name:PM25_Residential_2000-2018_ALB_
lat;lon;emission 2018 (tons)
45.2;15.8;3.16065e+0
45.2;15.9;2.47822e+0
45.2;16.5;2.91214e+0
45.2;16.6;1.34351e-1
45.2;16.7;1.11413e-1
45.2;16.8;4.83728e+0
45.2;16.9;4.52293e+0
45.2;17.0;4.25992e-2
45.1;15.7;1.19392e+1
45.1;15.8;4.18853e+1
45.1;15.9;2.57579e+1
45.1;16.0;5.46632e+0
45.1;16.4;2.62477e+0
45.1;16.6;2.94651e+0
45.1;16.7;7.06322e+0
45.1;16.8;1.76298e+1
45.1;16.9;6.19327e-1
45.1;17.0;5.30935e+0
45.1;17.1;4.22420e+0
45.1;17.2;4.14784e+1
45.1;17.3;5.16523e+0
45.1;17.4;7.43848e-1
45.1;17.5;1.35705e+0
45.1;17.6;1.05187e+0
45.1;17.7;1.93335e-1
45.1;17.9;3.14295e+1
45.1;18.0;1.02924e+1
45.1;18.2;1.83556e+1
45.1;18.3;3.26081e+0
45.1;18.4;2.60570e+0
45.1;18.5;5.90166e-1
45.1;18.6;4.91860e-1
45.0;15.7;1.05920e+1
45.0;15.8;2.13733e+1
45.0;15.9;1.64938e+1
45.0;16.0;6.45975e+1
45.0;16.1;1.08464e+0
45.0;16.2;2.62149e-2
45.0;16.3;2.95249e+1
45.0;16.4;6.15836e+0
45.0;16.5;4.25077e+0
45.0;16.6;9.16396e+0
45.0;16.7;4.00844e+0
45.0;16.9;5.01360e-1
45.0;17.0;4.50303e+0
45.0;17.1;2.03198e+0
45.0;17.2;2.08186e+1
45.0;17.3;3.44655e+1

.txt →
.nc

Visualization with Panoply
(https://www.giss.nasa.gov/tools/panoply/)
Example: for Albania, Bosnia and Herzegovina and North Macedonia

Map: residential (1A3b)

PM25 Residential 2000-2018 ALB BIH MKD 10026 PM2.5 2018

PM25 Residential 2000-2018 ALB BIH MKD 10026 PM2.5 2018 (Megagramme/year)

0.0   24.5   49.0   73.5   98.1   122.6
Data Min = 0.0, Max = 122.6

Feedback from the participants

Question 1

How useful was this training for your current/future work on emissions distribution?

➢ The training was very useful to improve the knowledge in the field of emission mapping (All countries).

➢ Depending of the level of development in each country:

o This training provided the basis to explain and propose to decision makers to improve regulation and capacities in this field (Bosnia and Herzegovina)

o Using the skills developed in this training, the experts can prepare some gridded maps to explain to the managers what is needed, so that they make the necessary efforts to move this matter forward (Albania)

o Use this working principle for future submissions (Serbia)

o The EDGAR Web-based gridding tool will be used in the next reporting cycle, which enable to shorten the time for distribution of emissions for residential and transport sectors (North Macedonia)

Understanding users' needs, data availability and overall acquaintance of users with the methodology allows designing better tools and methods (TFEIP About tools).

Feedback from the participants

Question 2
Are there other needs to improve further your skills and knowledge?
➢ Further trainings to expand knowledge in the field of emissions distribution methodology; it was appreciated that in person events stimulate more the work in small groups (Albania, Kosovo, Serbia)
➢ Trainings for the development of inventory including emissions distribution, financial support and improve the capacities (Bosnia and Herzegovina)
➢ Trainings for the preparation of emission inventory using Tier 2 level and for the calculation of uncertainty analysis (North Macedonia)
➢ The Balkan countries are on different level of development regarding emission inventory and gridded data so country expert missions/projects addressing specific needs would be very useful (North Macedonia).
Receiving specific feedback from users on the tools and methods and about their needs (TFEIP About tools).

Announcement
JRC Summer School 2023, WB

Title: The evaluation of air, soil and water pollution in support to the European Green Deal: a holistic approach

Date:

beginning of September.

Target group:

advanced students and young scientists in WB region.

Objective:

the aim is primarily to develop green skills for a more sustainable and resource-efficient society. The students will learn how to use JRC tools such as Emissions Database for Global Atmospheric Research (EDGAR) and TM5-FAst Scenario Screening Tool (TM5-FASST) for impact evaluation, become familiar with novel methods to improve water quality and soil health and discover more about advanced measurement techniques.

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Thank you