

AGENDA

1. GEIA project
2. GEIA-AFE working group
3. Introduction of each participant :
Location, position, interest in emissions
4. AFE planned activities for 2022
5. Questions and Discussions



Global Emissions Initiative

<http://www.geiacenter.org/>



What is GEIA project ?



Global Emissions Initiative

<http://www.geiacenter.org/>



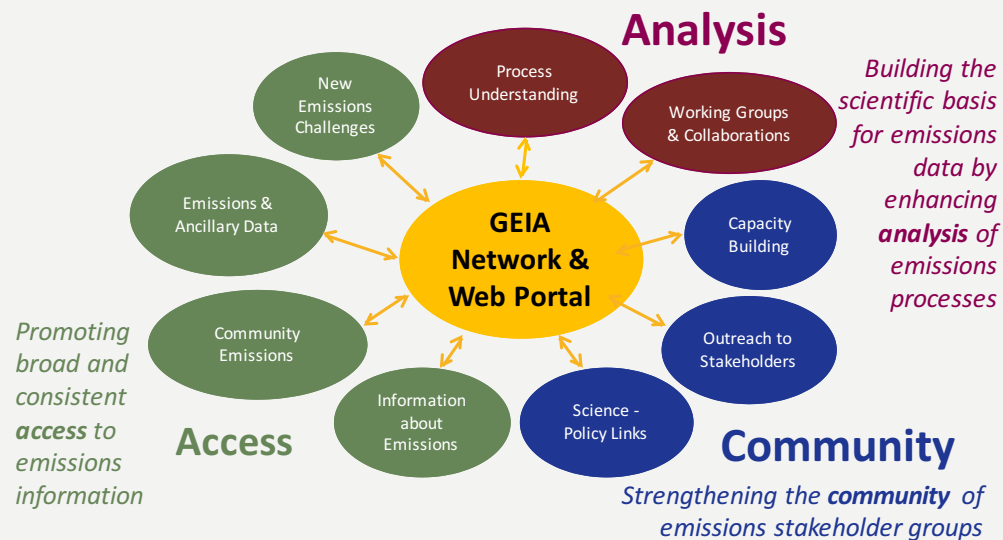


Activity



Founded in **1990** from a community initiative
 Bridging **science and policy**
 Bringing together **people, data, and tools**
 Creating and communicating **emissions information**
Key forum for emissions knowledge

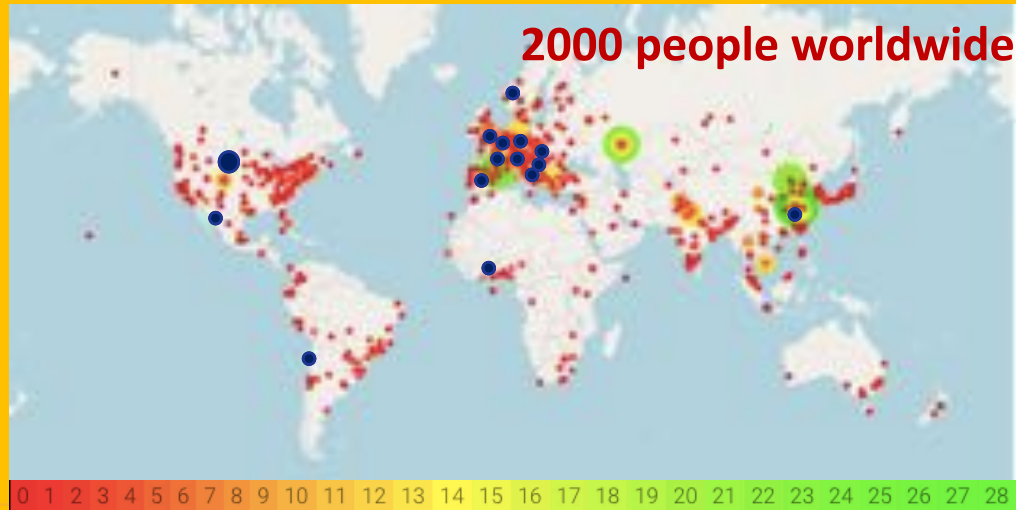
Because actions and decisions about the atmosphere
 focus on emissions, GEIA serves
 stakeholders in rapidly evolving global society



<http://www.geiacenter.org/>

GEIA Community

Network



Real time GEIA users

(Blue points represent GEIA SSC member locations)

Scientific Steering Committee

Alexander Baklanov (Switzerland)
Beatriz Cardenas (Mexico)
Hugo Denier van der Gon (The Netherlands)
Gregory Frost (USA)
Claire Granier² (France, USA)
Marc Guevara (Spain)
Nicolas Huneeus (Chile)
Greet Janssens-Maenhout (Italy)
Monica Crippa (Italy)
Johannes Kaiser (Germany)
Terry Keating (USA)

¹ Co-Chair

² Database Manager

³ Network Manager

Sekou Keita (Côte d'Ivoire)
Zbigniew Klimont (Austria)
Catherine Liousse¹ (France)
Brian McDonald¹ (USA)
Paulette Middleton³ (USA)
Katerina Sindelarova (Czech Republic)
Allison Steiner (USA)
Leonor Tarrasón (Norway)
Erika von Schneidemesser (Germany)
Yuxuan Wang (China)

ECCAD : the GEIA emissions data portal

<http://eccad.aeris-data.fr/>



ECCAD, GEIA's emissions data portal, provides consistent **access to inventories** and ancillary data with **easy-to-use tools** for analysis and visualization, to serve scientific research & assessment efforts.

GEIA working groups

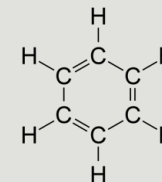
China Emissions WG (Contacts: K. He, Q. Zhang, Y. Wang)

- Improving scientific basis for Chinese emissions
- Sharing results between Chinese research groups
- 36 papers in ACP's East Asian Emissions Assessment



VOC Emissions WG (Contacts: E. von Schneidemesser, H. Denier van der Gon)

- Improving global understanding of VOC emissions
- Leveraging on-going inventory development, measurements, modelling
- Evaluating megacity VOC emissions speciation and sources



Latin America/Caribbean Emissions WG (Contacts: N. Huneus, L. Dawidowski, N. Rojas)

- Developing and evaluating LAC-specific emissions information
- Creating LAC regional emissions database and inventory
- Building LAC emissions expert community linked to global efforts



Urban Emissions WG (Contacts: L. Tarrasón)

- Leveraging techniques for urban emissions characterization
- Building capacity in megacities around the world



Africa Emissions WG (Contacts: C. Leal-Liousse, S. Keita, M. Naidoo)

- Creating a network of experts on African emissions
- Evaluating African-specific emission inventories
- Creating a regional database (fuel consumption, emission factors and inventories) and a continental wide African emission inventory



COVID19 WG (Contacts: M. Guevara, B. McDonald)

- Creating a network of experts on the quantification of COVID-19 emissions
- Providing guidance for the compilation of COVID-19 emission inventories.
- Developing and evaluating a mosaic of global and regional COVID-19 emission adjustment factors to quantify emission changes and perform modelling studies





19th GEIA conference :

June 2020

Virtual conference

Hosted by the University of Chile

<https://youtu.be/dCa7PrMaO8k>

GEIA COVID-19 WG

On line workhop

October 2021

IGAC virtual conference (2021) :

a session dedicated to GEIA program
(about 60 abstracts were submitted)

20th GEIA conference :

Fall 2023

Hosted by Royal Belgian Instit. for Space Aeronomy, Belgium

You are welcome to join the GEIA Network at this address to receive all the GEIA notices

<http://www.geiacenter.org/>

WORKING GROUP ON AFRICAN EMISSIONS (AFE)



CONTACTS :

SEKOU KEITA: LAPA, ABIDJAN, CÔTE D'IVOIRE

MOGESH NAIDOO: CSIR, SOUTH AFRICA

**CATHY LIOUSSE : LABORATOIRE D'AÉROLOGIE, TOULOUSE,
FRANCE**

SPECIFIC OBJECTIVES - 1



- Create a network on emissions for Africa with experts, international group representatives and regional decision makers (emissions for both climate & air quality communities).
- Gather all the existing information on emissions over the continent
- Create an African emission database providing basic information (fuels, emission factors) at a high spatial resolution (country, city) by considering all sectors of activity (traffic, domestic and commercial fires, waste burning, agricultural fires, industries, power plant, flaring).
- Develop and evaluate a continental wide African emission inventory from this database, possibly with the most recent DACCIWA inventory (Keita et al. 2021) as a baseline.
- Conduct exercise global/regional/local emission inventory harmonisation.

SPECIFIC OBJECTIVES - 2



- Organize training sessions in Africa on construction of emission inventories and emission factor measurements.
- Investigate formal links with decision makers in order to set up emission activity data collection at each country scale.
- Develop an AFE website: this will be a platform to host database on emission inventory, emission factors, fuel consumption data, publications, meeting informations, videos of training session ...

RECENT ACTIVITIES

- Create a network on emissions for Africa : here is the list of people that have been contacted (more than 110 people issued from 26 countries) => need to be updated
- Participate in workshops/conferences on Africa : e.g. :
 - ❖ « Advancing Air Quality Science in Africa 2020 » Workshop, organized by NCAR-ACOM in 2021 (Claire Granier and Benjamin Gaubert)
 - ❖ GEIA session of IGAC virtual conference (2021)
 - ❖ ANGA session of IGAC virtual conference (2021)



Name	Affiliation
Merabet Hamza	Algeria
Aristide Akpo	Benin
Baagi Mmereki	Botswana
Bernard Nana	Burkina Faso
Marie Ouafou	Cameroon
Eric Assamoi	Cote d'Ivoire
Evelyne Touré	Cote d'Ivoire
Veronique Yoboué	Cote d'Ivoire
Ange Brida	Cote d'Ivoire
Madina Doumbia	Cote d'Ivoire
A. Saber	Egypt
Mostafa El-Nazer	Egypt
Zeinab Salah Abdullah	Egypt
Ayman Badawy	Egypt
Ashraf Zakey	Egypt
Ali wheida	Egypt
Abdel Wahab	Egypt
Birhanu Liben	Ethiopia
Kefle Zeleke Aregaheg	Ethiopia
Claire Granier	France
Agnès Borbon	France
thierno Doumbia	France
Johanes Kaiser	Germany
Edmund Yamba	Ghana
Gameli Adzaho	Ghana
Ernest Kanyomse	Ghana
Abraham Oduro	Ghana
Andriannah Mbandi	Kenya
William Apondo	Kenya (SEI Africa)
Cassilde Muhoza	Kenya (SEI Africa)
Philip Osano	Kenya (SEI Africa)
Ezekiel Nyaga	Kenya
Pierre Bolleau	Kenya
Wilkister Moturi	Kenya
Cynthia Sitati	Kenya SEI
Peter Michael Oduor	Kenya
Abdelfettah Benchrif	Morocco
Abdelkader El Garouan	Morocco
Lahcen Elmalnoui	Morocco
Mostafa Maaimi	Morocco
Tahri Mounia	Morocco
Vincent Ajayi	Nigeria
Kehinde Ogunjobi	Nigeria
Odjugo	Nigeria
Adedotun Oke, Michael	Nigeria
Gbenga Olumayede	Nigeria
Stephen Uzoekwe	Nigeria
Emeka	Nigeria
Foleng Ndofor Harriet	Nigeria
Ibeh Gabriel	Nigeria
Joseph Williams Danba	Nigeria
Odukoya Adebowale	Nigeria
Ojeh Vincent	Nigeria
Olaniyi Akeem Olawale	Nigeria
Onyimanyi Anselm Ego	Nigeria
Salami Tairu	Nigeria
Ediang O.A.	Nigeria
Olumayede Gbenga	Nigeria
Uzoekwe Steve	Nigeria

Kalisa Egide	Rwanda
Habineza Theobard	Rwanda
Mamadou Drame	Senegal
Alfred Bockarie	Sierra Leone
Rebecca Garland	South Africa
Roelof Burger	South Africa
Hanlie Lieberg-Enslin	South Africa
Lucian Burger	South Africa
Patience Gwaze	South Africa
Nelvia Phala	South Africa
Stuart Piketh	South Africa
Cairncross Eugène	South Africa
Harijursad Nishi	South Africa
John Juanette	South Africa
Joubert Jason	South Africa
Makau Agnes	South Africa
Mbatha Nkanyiso	South Africa
Moolla Raeesa	South Africa
Nkambule Caesar	South Africa
Ramauslu Ramaisela	South Africa
Fischer Theo	South Africa
Language Brigitte	South Africa
Moeletsi Mokhele	South Africa
Mudau Azwitamisi Eric	South Africa
Olorunfemi Adelowale	South Africa
Pauw Christiaan	South Africa
Stevens Luanne	South Africa
Zunckel Mark	South Africa
Pieter Van Zyl	South Africa
Klopper Danitza	South Africa
Poswa Mandisa	South Africa
Gaber Ammar	Sudan
Eleni Michalopoulou	SEI Suede
Sabi Kokou	Togo
Game Pagedame Ibra	Togo
Deo Okure	Uganda
Mat Evans	UK
Sarah West	UK SEI York
Eloise Marais	UK
Laura Cardenas	UK
Ranjeet S Sokhi	UK (PREFIA) -WMO
Simone Tilmes	US
Christine Wiedinmeyer	US
Teclé Rufael	US
Benjamin Gaubert	US
R. Subramanian	US
Phenny Mwaanga	Zambia
Barnabas Chipindu	Zimbabwe
Mugandani Raymond	Zimbabwe
Dr Svinurai	Zimbabwe

RECENT AND ON GOING ACTIVITIES : LOOKING FOR FUNDING

- West, Central and East Africa : a proposal has been submitted last year at the french CNRS institute (not successfull) ; will be submitted again next july at the french IRD institute

4 person-months in 2022 to evaluate all the informations existing on emissions for the different countries. Also include the creation of a website and the organization of a workshop with training sessions with all the partners. Can be opened to other countries if we find additional money.

- South Africa : put our activities of AFE working group as an important axis of a joint France South Africa existing project (called ARSAIO).

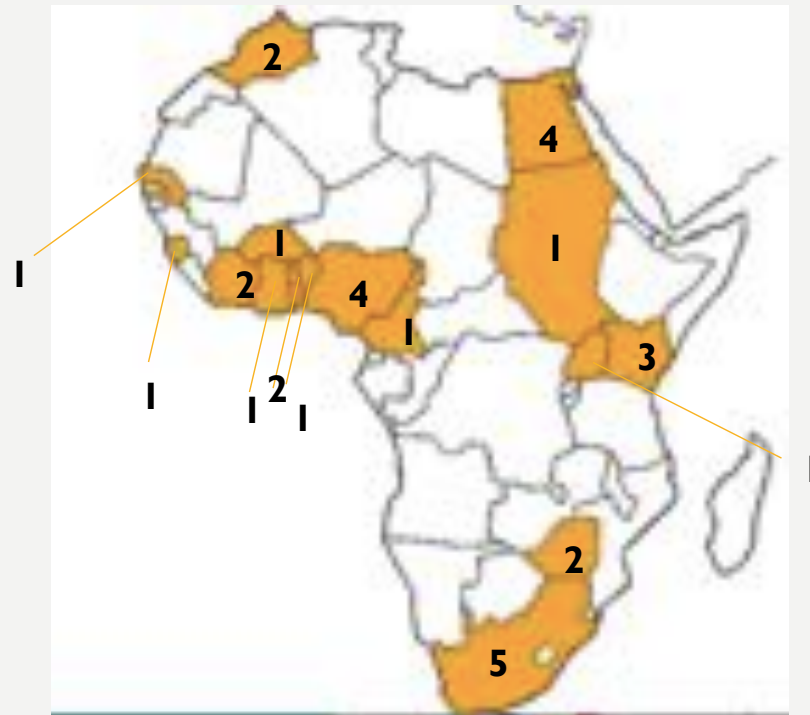
A master student from South Africa in 2022 will work on the project under the co-direction of Mogesh, Pieter Van Zyl and Cathy Liousse (link with IRD project)

- WASCAL german program (on climate services) with more than 11 countries of West Africa is interested by our activities (collaboration to set up).

OUR MEETING TODAY



- Organize a first virtual AFE meeting in January 2022 : here is the list of people that should be here today => 41 persons (32 in Africa), 20 countries (16 african countries).



Name	Affiliation
Sekou Keita	LAPA-UFHB Cote d'Ivoire
Cathy Liousse	LA-UPS France
Mogesh Naidoo	CSIR South Africa
Aristide Akpo	Benin
Bernard Nana	Burkina Faso
Marie Ouafou	Cameroon
Madina Doumbia	Cote d'Ivoire
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Agnès Borbon	France
thierno Doumbia	France
Edmund Yamba	Ghana KNUST
Andriannah Mbandi	Kenya
Wilkister Moturi	Kenya
Cynthia Sitati	SEI Kenya
Abdelfettah Benchrif	Morocco
Tahri Mounia	Morocco
Vincent Ajayi	Nigeria
Kehinde Ogunjobi	Nigeria
Ibeh Gabriel	Nigeria
Ojeh Vincent	Nigeria
Mamadou Drame	Senegal
Alfred Bockarie	Sierra Leone
Rebecca Garland	South Africa
Language Brigitte	South Africa
Moeletsi Mokhele	South Africa
Pauw Christiaan	South Africa
Gaber Ammar	Sudan
Eleni Michalopoulou	SEI Suede
Sabi Kokou	Togo
Game Pagedame Ibrahim	Togo
Deo Okure	Uganda
Eloise Marais	UK
Laura Cardenas	UK
Ranjeet S Sokhi	UK (PREFIA) -WMO
Tecle Rufael	US Houston (private)
Mugandani Raymond	Zimbabwe
Dr Svinurai	Zimbabwe

INTRODUCTION OF PARTICIPANTS

- First meeting of GEIA AFE → YOU are the AFE!
 - Location – e.g. country?
 - Position – e.g. Researcher, student, professor, consultant?
 - Interest related to emissions in Africa?
- Important to know who the members are and interests



Name	Affiliation
Sekou Keita	LAPA-UFHB Cote d'Ivoire
Cathy Liousse	LA-UPS France
Mogesh Naidoo	CSIR South Africa
Aristide Akpo	Benin
Bernard Nana	Burkina Faso
Marie Ouafu	Cameroon
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Mugandani Raymond	Zimbabwe
Dr Svinurai	Zimbabwe

PROPOSITION OF A FIRST ACTIVITY FOR THE YEAR 2022

- Determine 1 or 2 Principal Investigators/champions per country
- Organize a second virtual meeting in April 2022 where :
 - each PI will present summaries of existing emission works for their country
 - presentation of existing regional/global inventories for Africa, i.e. those covering multiple countries



PROPOSITION OF A FIRST ACTIVITY FOR THE YEAR 2022

- Country summaries from PI's
 - Important to know what currently exists and document in a comprehensive manner in the spirit of an African emissions community
 - It is assumed and likely that the local research would produce a more accurate representation of local emissions
- Brief summaries of existing works on emissions in African countries : measurements, emission inventories at the urban/country/regional scales, fuel consumption dataset availability, temporal distributions, emission gridding etc..
- Air pollutants, GHG gases can be included.
- Anthropogenic emissions are priority: traffic, residential burning, waste burning, industries, power plants, flaring emissions etc..
- It is also important that the work summarized uses/produces data that could be accessed by the general research community

Reminder that in a bottom-up methodology :

- *Emissions/country or city = Fuel consumptions * Emission factors (g of species/kg fuel)*
- *Emission gridding depending on different spatial proxies (population, traffic, point sources etc..)*
- *Temporal distribution of emission important to capture at least seasonal variation*



PROPOSITION OF A FIRST ACTIVITY FOR THE YEAR 22

- Determine 1 or 2 Principal Investigators per country



Attending Today

Morocco :

Senegal :

Sierra Leone :

Cote d'Ivoire :

Ghana :

Burkina Faso :

Togo :

Benin :

Nigeria :

Cameroon :

Egypt :

Sudan :

Uganda :

Kenya :

Zimbabwe :

South Africa :

Comprehensive list to be created here – PLEASE ADD YOUR NAME or SUGGESTION:

https://docs.google.com/spreadsheets/d/1rVuzaBlhFVrLTfinHuJ-zY5j10c_g_fRT4R-v94NK00/edit?usp=sharing

QUESTIONS AND DISCUSSIONS



- How to complete our network? (missing countries)

https://docs.google.com/spreadsheets/d/1rVuzaBlhFVrLTfinHuJ-zY5j10c_g_fRT4R-v94NK00/edit?usp=sharing

- Other activities? Other needs ?
- Other ideas of funding ?
- Other comments ?